

**English Language Development in P.R. China: A Study of the  
Impact of Some Learner-internal and Learner-external Factors**

by

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## DECLARATION

I, Xudong Wu, the undersigned, hereby declare that this thesis does not contain any material which has been accepted for the award of any other higher degree or graduate diploma in any tertiary institution and that, to the best of my knowledge and belief, this thesis does not contain any material previously published or written by another person, except when due reference is made in the text of the thesis.

Signed: *Xudong Wu*  
(Xudong Wu)

Dated 9 Feb. 1994

## ABSTRACT

English learning in China belongs in what is called "foreign language" learning, which has so far been little studied in the field of second language acquisition research. This study investigated, within a single theoretical framework, the English language development of Chinese university students as revealed from their oral production, and how some learner-internal and learner-external factors contributed to this development. The oral English development was investigated by examining how the subjects used the English they learnt in the classroom to express the discourse functions of "foreground" and "background" and the concept of "past time" in oral narrative. The learner-internal factors considered were: the subjects' attitudes both in relation to English learning and to the classroom learning environment, their motivations for learning English, and their learning strategies. The learner-external factors under investigation were: the subjects' classroom learning experiences, and their out-of-class contact with English.

Based on some representative theories of second language acquisition, and relevant empirical studies, a conceptual framework was first established which delineated the possible relationships between the chosen factors and their relevant concepts.

Data for the study were collected in an 11-month period from 20 students majoring in English in Foreign Languages Department of Fujian Teachers University in China. The subjects were chosen by random sampling from 98 of the 109 students enrolled in 1989. The data comprised (i) three administrations of four types of questionnaires which provided information concerning the subjects' attitudes, motivations, learning strategies, and out-of-class contacts with English; (ii) the subjects' performance of a metalinguistic judgment test; and (iii) orthographic transcriptions of the subjects' speech elicited at an interval of three to four weeks, two narratives for each subject on each of the 14 occasions.

Data analyses reveal the following main findings. First, discourse functions had selective impact on the subjects' choice of linguistic features to express them, on their expression of the notion "past time", and on their adoption of self-corrections and communication strategies. Second, the subjects' oral English development can be described linguistically and non-linguistically. Linguistically, the development was reflected in the subjects' growing ability to use more types of linguistic features. Non-linguistically, the development manifested itself in (i) an ability to break chronological order of the events described in oral narratives, (ii) a growing desire to be both conceptually and linguistically accurate in oral production, as indicated by the use of irregular verbs in past tense after a growing number of auxiliaries and inflectional forms of the link verb "to be", and by the self-correction of more types of linguistic features, and (iii) a growing ability to cope with communication problems. Third, the subjects' intrinsic interests in English-speaking people and in learning English appeared to be channeled by the knowledge-oriented language instruction into the adoption of the type of learning strategies which enabled them to extend only the knowledge about the target language. The lack of oral practice both in and out of the classroom resulted in a great gap between a highly analytical knowledge about the target language and an under-developed procedural knowledge. The under-developed procedural knowledge prevented the subjects from engaging in fluent oral communication. The possible dissatisfaction with their own oral learning outcomes appeared to prevent the subjects from further participating in oral practice.

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## **CONTENTS**

|                                 |            |
|---------------------------------|------------|
| <b>Declaration</b> .....        | <b>ii</b>  |
| <b>Statement</b> .....          | <b>iii</b> |
| <b>Abstract</b> .....           | <b>iv</b>  |
| <b>Acknowledgments</b> .....    | <b>v</b>   |
| <b>List of Figures</b> .....    | <b>xiv</b> |
| <b>List of Tables</b> .....     | <b>xiv</b> |
| <b>List of Appendices</b> ..... | <b>xvi</b> |

### **CHAPTER 1**

#### **ORIENTATION OF THE PRESENT STUDY, ITS RATIONALE AND KEY RESEARCH QUESTIONS**

|   |          |
|---|----------|
| <b>1.1 Orientation of the present study</b> .....     | <b>1</b> |
| <b>1.2 Rationale for the present study</b> .....      | <b>1</b> |
| <b>1.3 Key research questions for the study</b> ..... | <b>6</b> |
| <b>1.4 Content of remaining chapters</b> .....        | <b>7</b> |

### **CHAPTER 2**

#### **IN SEARCH OF THEORETICAL BACKGROUND: A REVIEW OF SOME REPRESENTATIVE THEORIES OF SECOND LANGUAGE ACQUISITION**

|  |           |
|--|-----------|
| <b>2.1 Need for indirect application of the existing theories of second language acquisition theories</b> .....                                    | <b>9</b>  |
| <b>2.2 General aspects of L2 learning and their interrelation as perceived by the representative theories of second language acquisition</b> ..... | <b>10</b> |
| i) Theories of L2 learning, Type 1: "Single-perspective" theories.....   | 11        |
| ii) Theories of L2 learning, Type 2: "integrated" theories.....  | 14        |
| iii) Aspects of L2 learning commonly dealt with in, and their interrelations as perceived by, some representative theories of L2 learning.....     | 18        |
| <b>2.3 Aspects of L2 learning in which factors to be investigated belong</b> .....   | <b>21</b> |
| <b>2.4 Possible relationships between the aspects of L2 learning in which factors to be investigated belong</b> .....                              | <b>21</b> |
| <b>2.5 Summary of the Chapter</b> .....  | <b>22</b> |

### CHAPTER 3

#### REVIEW OF THE RELATED RESEARCH LITERATURE

|   |    |
|---|----|
| 3.1 The need to employ related research literature in order to specify relationships between the factors to be investigated in this study ..... | 23 |
| 3.2 Research relating to the learning environment .....   | 23 |
| i) Methodological approaches to L2 classroom research .....   | 24 |
| ii) Characteristics of teacher talk during classroom L2 instruction .....   | 27 |
| iii) Behaviours of the learners in L2 classrooms .....  | 32 |
| iv) Classroom interactions: learner-learner and teacher-learner .....   | 34 |
| v) Effects of formal instruction on L2 learning .....   | 38 |
| 3.3 Individual characteristics of L2 learners .....   | 41 |
| i) Research related to the role of motivation and attitude in L2 learning .....   | 41 |
| ii) Learning strategies of L2 learners .....  | 43 |
| iii) Communication strategies of L2 learners .....  | 46 |
| 3.4 Cognitive processes of L2 learning and production .....   | 47 |
| i) The process of converting input into intake .....  | 47 |
| ii) The role of planning and monitoring during L2 production .....  | 48 |
| 3.5 L2 learning outcomes .....  | 48 |
| i) L2 learners' internal representation of grammatical rules of target language .....   | 49 |
| ii) L2 development in terms of "function-form" relationships .....  | 50 |
| 3.6 Summary and conclusion .....  | 54 |

### CHAPTER 4

#### A CONCEPTUAL FRAMEWORK: RELATIONSHIPS BETWEEN FACTORS TO BE INVESTIGATED IN THE STUDY

|   |    |
|---|----|
| 4.1 Prior considerations .....  | 58 |
| 4.2 Characteristics of English learning in Foreign Languages Department of Fujian Teachers University ..... | 59 |
| 4.3 Concept of "function" .....   | 60 |
| 4.4 Relationships between the factors to be investigated in the study - a conceptual framework .....        | 62 |
| 4.5 Sub-questions for research, variables for investigation, and relationships to be explored .....         | 66 |

## CHAPTER 5

### RESEARCH DESIGN, INSTRUMENTATION, DATA COLLECTION, AND DATA ANALYSIS

|      |   |    |
|------|---|----|
| 5.1  | Research design .....   | 70 |
| i)   | Prior considerations .....  | 70 |
| ii)  | Sample .....  | 71 |
| iii) | Procedures of investigation .....   | 73 |
| 5.2  | Instrumentation .....   | 76 |
| i)   | Observation of subjects' classroom English learning .....   | 76 |
| ii)  | Language Contact Profile Questionnaire .....  | 76 |
| iii) | The Attitude in Relation to English Learning Questionnaire, The Motivation for Learning English Questionnaire, The Attitude toward the Classroom Learning Environment Questionnaire, and The English Learning Process Questionnaire ..... | 77 |
| iv)  | The Metalinguistic Judgment Test .....  | 80 |
| v)   | Oral English production: narratives .....   | 81 |
| 5.3  | Data collection .....   | 82 |
| i)   | Time frame for data collection .....  | 82 |
| ii)  | Subjects' classroom English learning experiences .....  | 82 |
| iii) | Subjects' out-of-class contact with English .....   | 85 |
| iv)  | Subjects' individual characteristics, viz. attitude in relation to English learning, attitude toward the classroom learning environment, motivations for learning English, and learning strategies .....                                  | 85 |
| v)   | Subjects' internal representations of the English knowledge .....   | 86 |
| vi)  | Oral production of English .....  | 87 |
| 5.4  | Preparation of data, and their analyses .....   | 88 |
| i)   | Subjects' classroom English learning experiences .....  | 88 |
| ii)  | Subjects' out-of-class contact with English .....   | 89 |
| iii) | Subjects' individual characteristics, viz. attitude in relation to English learning, attitude toward the classroom learning environment, motivations for learning English, and learning strategies .....                                  | 90 |
| iv)  | Subjects' internal representations of the English knowledge .....   | 91 |
| v)   | Oral English production - narratives .....  | 92 |
| 5.5  | Analyses of the relationships to be explored in the study .....   | 92 |

## CHAPTER 6

### RESULTS FOR SUBJECTS' LEARNING CONTEXTS - ENGLISH LEARNING IN THE CLASSROOM AND OUT-OF-CLASS CONTACT WITH ENGLISH

|      |   |     |
|------|---|-----|
| 6.1  | Results for subjects' experiences of English learning in the classroom .....  | 94  |
| i)   | Types of knowledge about English taught during the instruction .....  | 96  |
| ii)  | Types of practice in English which subjects were required to do<br>during classes .....   | 99  |
| iii) | Classroom interactions .....  | 102 |
| iv)  | Summary of subjects' English learning experiences in the classroom .....  | 106 |
| 6.2  | Results for subjects' out-of-class contact with English .....   | 108 |
| i)   | Description of the Language Contact Profile Questionnaire .....   | 108 |
| ii)  | Amount of time, and changes in amount of time, subjects spent on<br>six sub-types of out-of-class contact with English (LCPQ data) .....              | 110 |
| iii) | Subjects' preferences, and changes in their preferences, for listening,<br>speaking and reading English or Chinese when given choice .....            | 111 |
| iv)  | Subjects' participation, and changes in participation, in out-of-class<br>activities that helped to improve their levels of English proficiency ..... | 113 |
| v)   | Summary of subjects' out-of-class contact with English .....  | 115 |
| 6.3  | Overall summary of subjects' English learning contexts .....  | 116 |

## CHAPTER 7

### RESULTS FOR SUBJECTS' INDIVIDUAL CHARACTERISTICS - ATTITUDES, MOTIVATIONS, AND LEARNING STRATEGIES

|      |  |     |
|------|--|-----|
| 7.1  | Profiles, and changes in profiles, of subjects' two attitudinal<br>aspects and overall attitude in relation to English learning .....                        | 118 |
| i)   | Description of the Attitude in Relation to English Learning<br>Questionnaire and the ways of determining types of attitude profile .....                     | 118 |
| ii)  | Profiles of subjects' two attitudinal aspects and overall<br>attitude in relation to English learning .....  | 120 |
| iii) | Changes in profiles of subjects' two attitudinal aspects and overall<br>attitude in relation to English learning .....                                       | 121 |
| 7.2  | Profiles, and changes in profiles, of subjects' attitude toward the classroom<br>learning environment (three attitudinal aspects and overall attitude) ..... | 121 |

|      |   |     |
|------|---|-----|
| i)   | Description of the Attitude toward the Classroom Learning Environment Questionnaire and the ways of determining types of attitude profile ..... | 121 |
| ii)  | Profiles of subjects' three attitudinal aspects and overall attitude toward the classroom learning environment .....                            | 123 |
| iii) | Changes in profiles of subjects' three attitudinal aspects and overall attitude toward the classroom learning environment .....                 | 124 |
| 7.3  | Profiles, and changes in profiles, of subjects' integrative and instrumental motivations for learning English .....                             | 125 |
| i)   | Description of the Motivation for Learning English Questionnaire and ways of determining types of profiles of the two motivations .....         | 125 |
| ii)  | Profiles of subjects' integrative and instrumental motivations for learning English .....   | 127 |
| iii) | Changes in profiles of subjects' integrative and instrumental motivations for learning English .....  | 127 |
| 7.4  | Profiles, and changes in profiles, of subjects' surface, deep and achieving motives for learning English .....                                  | 128 |
| i)   | Description of the English Learning Process Questionnaire and ways of determining types of motive profile .....                                 | 128 |
| ii)  | Profiles of subjects' surface, deep and achieving motives for learning English .....  | 129 |
| iii) | Changes in profiles of surface, deep and achieving motive for learning English .....  | 130 |
| 7.5  | Profiles, and changes in profiles, of subjects' adoption of three types of English learning strategy .....                                      | 131 |
| i)   | Description of the English Learning Process Questionnaire and ways of determining nature of profiles .....                                      | 131 |
| ii)  | Profiles of subjects' adoption of three types of English learning strategy .....  | 132 |
| iii) | Changes in profiles of subjects' adoption of three types of English learning strategy .....   | 133 |
| 7.6  | Overall summary of the investigation into subjects' individual characteristics .....  | 134 |

## CHAPTER 8

### RESULTS FOR SUBJECTS' LEARNING OUTCOMES - INTERNAL REPRESENTATIONS OF ENGLISH KNOWLEDGE AND ORAL ENGLISH DEVELOPMENT IN TERMS OF "FUNCTION-FORM" RELATIONSHIPS

|     |   |     |
|-----|---|-----|
| 8.1 | Internal representations of English knowledge ..... | 137 |
| i)  | The Metalinguistic Judgment Test .....              | 138 |

|      |   |     |
|------|---|-----|
| ii)  | Subjects' performance on the Metalinguistic Judgment Test .....                             | 140 |
|      | Performance on the Discrimination Task .....  | 141 |
|      | Performance on the Location Task .....  | 143 |
|      | Performance on the Correction Task .....  | 143 |
|      | Performance on the Rule Statement Task .....  | 148 |
|      | Summary of the subjects' performances on the four tasks .....                               | 150 |
| 8.2  | Oral English development in terms of "function-form" relationships .....                    | 151 |
| i)   | Linguistic forms used to express foreground and<br>background information .....             | 153 |
|      | Sentence types used to express foreground and background<br>information in narratives ..... | 153 |
|      | Types of verb in foreground and background sentences .....                                  | 159 |
|      | Types of verb form used in foreground and background sentences .....                        | 160 |
| ii)  | Linguistic and non-linguistic means of referring to the notion of time .....                | 169 |
|      | Linguistic means of referring to past time .....  | 169 |
|      | Non-linguistic means of expressing past time .....  | 174 |
|      | Summary of linguistic and non-linguistic means of<br>referring to past time .....           | 176 |
| iii) | Production strategies subjects adopted to solve problems<br>from oral production .....      | 177 |
|      | Self-correction during oral production .....  | 177 |
|      | Adoption of communication strategies during oral production .....                           | 182 |
| 8.3  | Overall summary of subjects' learning outcomes .....  | 189 |

## CHAPTER 9

### INTERPRETATION OF RESULTS

|      |   |     |
|------|---|-----|
| 9.1  | Interpretation of the results in terms of nine types of relationship .....  | 192 |
| i)   | Relationships between subjects' English learning experiences<br>in the classroom and their attitudes in relation to both English<br>learning and the classroom learning environment ..... | 192 |
| ii)  | Relationships between subjects' attitude in relation to<br>English learning and their motivations for learning English .....  | 193 |
| iii) | Relationships between subjects' attitude toward the classroom<br>learning environment and their motivations for learning English .....  | 196 |
| iv)  | Relationships between subjects' motivations for learning English<br>and their participation in out-of-class contact with English .....  | 197 |

v) Relationships between surface, deep and achieving motives for learning English and surface, deep and achieving learning strategies adopted .....199

vi) Relationship between subjects' adoption of learning strategies and internal representations of their knowledge of the English language .....200

vii) Relationship between subjects' oral practice in and out of classroom and the development of a procedural knowledge .....200

viii) Relationships between functions under examination, and linguistic forms and strategies adopted during oral production .....201

ix) Relationship between subjects' oral learning outcomes and subsequent oral English practice .....205

9.2 Summary of the interpretations of results in terms of the nine types of relationship .....206

CHAPTER 10

SUMMARY, SOME CONCLUSIONS, AND RECOMMENDATIONS

10.1 Summary .....209

10.2 Some conclusions .....212

Oral English development in terms of "function-form" relationships .....212

Influence of learner-external and learner-internal factors on oral English development .....214

10.3 Recommendations .....215

English teaching in China .....215

Further research .....216

REFERENCES .....218

APPENDICES .....240

## LIST OF FIGURES

|  |    |
|--|----|
| 1. Summary of interrelation between aspects of L2 learning as perceived by some representative theories of L2 learning ..... | 20 |
| 2. A conceptual framework of oral English development in the foreign language classroom setting .....                        | 65 |
| 3. Model showing research procedures adopted in the study .....  | 74 |

## LIST OF TABLES

|   |     |
|---|-----|
| 1. A summary of factors found to be related to L2 learning .....  | 4   |
| 2. A summary of aspects of L2 learning dealt with in each representative theory of L2 learning reviewed .....   | 18  |
| 3. Relevant variables in relation to aspects of L2 learning .....   | 68  |
| 4. A summary of the courses subjects attended in data collection period, together with class periods for each course per week .....   | 83  |
| 5. A summary of number of teachers for each course, native languages of teachers, and teaching materials adopted for each course during three semesters of English learning at the University ..... | 95  |
| 6. Means and standard deviations of the scores which subjects as a group obtained for each of six sub-types of contact from their self-reports (LCPQ data .....                                     | 110 |
| 7. Percentages of subjects indicating preferences for listening, reading and speaking English or Chinese at three tests .....   | 112 |
| 8. Results for the Cochran Q tests for subjects' indications of preference for listening to, speaking, and reading English at three LCPQ administrations .....                                      | 113 |
| 9. Differences between subjects' indications of participation in non-oral English activities at three LCPQ administrations .....  | 114 |
| 10. Percentages of subjects who indicated participation, and no participation, in oral English activity at the three LCPQ administrations .....   | 115 |
| 11. Means and standard deviations of the scores for two attitudinal aspects and overall attitude in relation to English learning at the test prior to English learning at the University .....      | 120 |
| 12. Means and standard deviations of the scores for three attitudinal aspects and overall attitude toward the classroom learning environment (Test 1) .....   | 123 |
| 13. Means and standard deviations of the scores for integrative and instrumental motivations for learning English prior to English learning at the University .....                                 | 127 |



|  |     |
|--|-----|
| 14. Means and standard deviations of the scores for surface,<br>deep and achieving motives (Test 1) .....  | 130 |
| 15. Means and standard deviations of the scores for three<br>types of learning strategies (Test 1) .....   | 133 |
| 16. Excerpt from Table 16 (S1), A summary of subjects' responses<br>in four tasks required in Metalinguistic Judgment Test .....   | 140 |
| 17. A summary of total Type 4 and total Type 2 responses<br>to Discrimination Task .....   | 141 |
| 18. A summary of totals of four types of responses to the Correction Task .....  | 144 |
| 19. A summary of totals of three types of response to the Rule Statement Task .....  | 148 |
| 20. Excerpt from Table 20 (S2), Types of sentence used by subjects<br>to express foreground and background information .....   | 153 |
| 21. A summary of occurrence of new types of sentence in the oral production .....  | 157 |
| 22. Excerpt from Table 22 (S2), Types of verb used by subjects<br>to express foreground and background information .....   | 159 |
| 23. Excerpt from Table 23 (S2), Target verb forms used by subjects<br>to express foreground and background information .....   | 162 |
| 24. A summary of total numbers of target verb form types used in expressing<br>foreground and background information in all 14 elicitation sessions .....                                    | 163 |
| 25. A summary of occurrence of new target verb forms in the oral production .....  | 164 |
| 26. Excerpt from Table 26 (S2), Non-target verb forms used by subjects<br>to express foreground and background information .....   | 166 |
| 27. A summary of occurrence of new non-target verb forms<br>in the oral production .....   | 167 |
| 28. Excerpt from Table 28 (S2), Percentage of past and non-past time<br>reference in relation to that of actual time marking in expression<br>of foreground and background information ..... | 170 |
| 29. Subjects' varying abilities to use linguistic means to express<br>the concepts of "past in the past" and "future in the past" .....  | 173 |
| 30. Subjects' varying organisation of narrative events that<br>did not follow a chronological order .....  | 176 |
| 31. Excerpt from Table 31 (S2). Self-correction made by subjects when<br>producing narratives orally, divided according to foreground and<br>background information .....                    | 178 |
| 32. Six aspects of subjects' adoption of self-correction strategy .....  | 179 |
| 33. Excerpt from Table 33 (S2), Communication strategies adopted<br>by subjects when orally producing narratives, divided according<br>to foreground and background information .....        | 183 |
| 34. Percentages of elicitation sessions in which no communication strategy<br>was adopted to express foreground and background information .....   | 184 |

|   |     |
|---|-----|
| 35. Six aspects of subjects' adoption of communication strategies<br>in the 14 elicitation sessions .....   | 185 |
| 36. Correlation coefficients between overall attitude in relation to<br>English learning and integrative and instrumental motivations .....                       | 194 |
| 37. Correlation coefficients between overall attitude in relation to English<br>learning and three types of motives (surface, deep and achieving .....            | 195 |
| 38. Correlation coefficients between overall attitude toward the classroom<br>learning environment and integrative and instrumental motivations .....             | 196 |
| 39. Correlation coefficients between overall attitude the classroom learning<br>environment and three types of motives (surface, deep and achieving .....         | 197 |
| 40. Correlation coefficients between integrative and instrumental motivations<br>and overall participation in out-of-class contact with English .....             | 198 |
| 41. Correlation coefficients between three types of motives (surface, deep and<br>achieving) and overall participation in out-of-class contact with English ..... | 198 |
| 42. Correlation coefficients between three types of motives (surface,<br>deep and achieving) and their corresponding learning strategies .....                    | 199 |

## LIST OF APPENDICES

|   |     |
|---|-----|
| 1. A summary of approaches to interlanguage variability .....   | 240 |
| 2. Questionnaire about English learning in secondary schools .....  | 243 |
| 3. Language contact profile questionnaire (LCPQ) .....  | 244 |
| 4. The attitude in relation to English learning questionnaire (AELQ) .....  | 246 |
| 5. The motivation for learning English questionnaire (MLEQ) .....   | 249 |
| 6. The attitude toward classroom learning environment questionnaire (ACLEQ) .....   | 252 |
| 7. The English learning process questionnaire (ELPQ) .....  | 255 |
| 8. Metalinguistic judgment test .....   | 260 |
| 9. A summary of scores each subject obtained for six sub-types of out-of-class<br>contact at three administration of LCPQ .....   | 262 |
| 10. Analysis of variance (one factor, repeated measure) for amounts of time<br>subjects reported to have spent on six sub-types of out-of-class contact with<br>English in three LCPQ administrations ..... | 265 |
| 11. A summary of subjects' indications of preference for listening, speaking and<br>reading English or Chinese at three LCPQ administrations .....  | 267 |
| 12. A summary of raw scores subjects obtained for non-oral English activities<br>in which they participated during three semesters of English learning at the<br>University .....                           | 270 |

|   |     |
|---|-----|
| 13. A summary of subjects' indications of participation in out-of-class oral English activity at three LCPQ administrations .....   | 271 |
| 14. A summary of the scores which subjects obtained for two attitudinal aspects, and overall attitude in relation to English learning in the testing session prior to their English learning at the University and in the three testing sessions after their English learning at the University ..... | 272 |
| 15. Analysis of variance (one factor, repeated measure) for subjects' indications of two attitudinal aspects and overall attitude in relation to English in one pre-university English learning testing session and three post-university English learning testing sessions .....                     | 276 |
| 16. A summary of scores obtained by subjects for three attitudinal aspects and overall attitude toward the classroom learning environment in three testing sessions .....   | 277 |
| 17. Analysis of variance (one factor, repeated measure) for scores obtained by subjects for three attitudinal aspects and overall attitude toward the classroom learning environment in three testing sessions .....  | 280 |
| 18. A summary of scores obtained by subjects for integrative and instrumental motivations for learning English in one pre-university English learning testing session and in three post-university English learning testing sessions .....  | 281 |
| 19. Analysis of variance (one factor, repeated measure) for the scores obtained by subjects for integrative motivation and instrumental motivation for learning English in one pre-university English learning testing session and three post-university English learning testing sessions .....      | 285 |
| 20. A summary of the scores obtained by subjects for surface, deep and achieving motives for learning English in three testing sessions .....   | 286 |
| 21. Analysis of variance (one factor, repeated measure) for the scores obtained by subjects for surface, deep and achieving motives for learning English in three testing sessions .....  | 289 |
| 22. A summary of the scores obtained by subjects for three types of English learning strategy in three testing sessions .....   | 290 |
| 23. Analysis of variance (one factor, repeated measure) for the scores obtained by subjects for three types of English learning strategy in three testing sessions .....  | 293 |
| 24. Table 16. A summary of subjects' responses in four tasks required in Metalinguistic Judgment Test .....   | 294 |
| 25. Table 20. Types of sentence used by subjects to express foreground and background information .....   | 301 |
| 26. Table 22. Types of verb used by subjects to express foreground and background information .....   | 310 |

|  |     |
|--|-----|
| 27. Table 23. Target verb forms used by subjects to express foreground and background information .....  | 314 |
| 28. Table 24. Non-target verb forms used by subjects to express foreground and background information .....  | 325 |
| 29. Table 26. Percentages of past and non-past time reference in relation to those of actual time marking in expression of foreground and background information ..... | 330 |
| 30. Table 31. Self-correction made by subjects when producing narratives orally, divided according to foreground and background information .....                      | 334 |
| 31. Table 33. Communication strategies adopted by subjects when producing narratives orally, divided according to foreground and background information .....          | 341 |
| 32. A summary of scores obtained by the subjects for overall participation in out-of-class contact with English in the three testing sessions .....                    | 345 |

## **Chapter 1 Orientation of the Present Study, Its Rationale and Key Research Questions**

### **1.1 *Orientation of the present study***

The present study examined, within a single theoretical framework, two major problems about adult English learning in the classroom setting in P.R. China. The first was the description of the learners' oral English development in terms of "function-form" relationships. Here "function" roughly referred to the ideas which the learners attempted to express in English, and "form" referred to the target linguistic forms which the learners employed during the oral expression of their ideas. The second problem was whether, and if so, how, some learner-external and learner-internal factors influenced the above-mentioned oral English development. The learner-external factors referred to two aspects of the learners' learning contexts. One was the formal classes which the learners attended to learn English, the other was the learners' out-of-class contacts with English. The learner-internal factors were the learners' attitude, motivation, and learning strategies in relation to English learning in the Chinese context.

### **1.2 *Rationale for the present study***

Selection of the two major problems for the present study was prompted by the personal experience of the author as a teacher of English at Foreign Languages Department of Fujian Teachers University in China. His students all majored in English and so were required, in the course of four years, basically to be proficient in four aspects of English learning, viz. listening, reading, speaking, and writing. Usually the students made satisfactory progress in listening, reading, and writing. However, when it came to speaking the result was often frustrating. The students tended to speak less often and, perplexingly, less fluently as the learning proceeded. Therefore, the question "Why did the students show little progress over time in their oral abilities?" was selected as a topic for the present study when the decision was made to investigate adult English learning in the Chinese context. In other words, this author firstly attempted to describe the learners' oral English development in the classroom setting, and secondly, to search for the factors that influenced such oral English development.

A preliminary reading of the relevant literature achieved three things in finalising

the selection of these two major problems. First of all, it strengthened the author's belief that oral English development in the Chinese context needed empirical research, because empirical study of English learning in China was almost non-existent. Li et al. (1988) summarised the contemporary state of research into English teaching and learning in China as being characterised by the lack of systematic understanding of, and research into, the new theories, new methods and new disciplines in the field of linguistics, the absence of a theory of language teaching and learning developed in the Chinese context, and the backwardness of the research methodology (See p.539 for the original Chinese).

The literature also showed that much of the research into learning English as a second language had been carried out either in a *naturalistic* or in a *mixed classroom* setting. Few studies had been carried out in the so-called *foreign language classroom* setting. The three terms above need some explanation. *Naturalistic* setting refers to the context in which a learner does not acquire the target language through classroom instruction, but through communicating orally with native speakers of the target language. *Mixed classroom* setting refers to the context in which a learner learns the target language through classroom instruction in the target language community and thus has many opportunities to use the target language by participating in natural communication situations. *Foreign language classroom* refers to the context in which the target language is learned through classroom instruction outside the target language community and thus has few chances to use the target language in natural communicative situations. According to the above definitions, English learning in China belongs in the category of foreign language classroom learning. There had been some discussion in the literature about the differences between naturalistic second language (L2) learning and foreign language learning and the impact of the situational differences on the process of L2 learning (Ringbom 1979). However, such discussion will always be a topic for speculation unless sufficient evidence is accumulated to show how L2 learning takes place in a foreign language classroom setting as well as in a naturalistic setting.

The second thing achieved from the preliminary reading of the literature was the decision to adopt the "function-form" approach to describe the oral English development of adult Chinese students. The literature had indicated that the language produced by L2 learners was characterised by its variability. Not only did learners show performance variations in each stage of L2 development (Hatch 1974), but they performed variably on different language tasks (Dickerson 1975; Schmidt 1977). However, L2 learners' underlying target language system, though imperfect, had been regarded as rule-governed. Selinker (1969, 1972) called this imperfect target language system "interlanguage" (or IL).

The problem arose that if L2 learners possessed a rule-governed target language

system, then how, from their speech production, could the variability be accounted for. Earlier research into L2 learners' speech production, such as error analysis and morpheme studies, could not answer this question. Thus the study of speech production of L2 learners until recently has become the business of looking for the hidden systematicity of L2 learners' variable performance in their target languages.

The variability of learners' target language production had been approached from a number of different perspectives. Tarone (1988) classified these approaches into two broad categories. One category was termed "Inner Processing", and the other "Social-linguistic and Discourse". Each category enclosed a number of models and theories within it (See Appendix 1). It was this foreseeable variability of L2 learners' target language production, and the existence of various approaches to target language production variability, that caused the author to consider the selection of an appropriate approach to the description of oral English production by the Chinese students.

The adoption of the "function-form" approach for this study was based largely on Tarone's assessment of various approaches to the variability of L2 learners' target language production. Tarone (1988) put forward four criteria for the assessment of those approaches. Simply put, these criteria were: (a) the approach must stipulate some systematicity in L2 performance variation, (b) the causes of systematic variation proposed must be empirically verifiable, (c) all known facts of target language production variation had to be explained and ultimately predicted by the approach, and (d) those approaches that are not empirically verifiable must be characterised by their internal consistency, parsimony, and elegance. According to Tarone, the "function-form" approach met the first three criteria, but failed to meet the fourth because of its confused and undeveloped use of the central term "function". Despite this demerit, she still regarded this approach as more adequate in its capacity to describe a L2 learner's target language system and account for its systematicity and variability than other approaches she studied. Other researchers had also pointed out the necessity of examining the functional aspect of L2 learners' performance in order to reveal the systematicity of their underlying target language system (Wagner-Gough and Hatch 1975; Hakuta and Cancino 1977).

The third thing achieved from the preliminary reading of literature was the decision that the possible impact of the selected learner-external and learner-internal factors on the learners' oral English development would be examined within a single theoretical framework. The selection of learner-external and learner-internal factors for investigation was based on a summary of the factors that were found, in the literature on L2 acquisition, to be related to L2 learning. These factors are displayed in Table 1.

| <p style="text-align: center;"><i>Table 1</i></p> <p style="text-align: center;"><i>A Summary of Factors Found to be Related to L2 Learning</i></p> |  |
|---|--|
| Learner-external Factors  | Learner-internal Factors   |
| linguistic environment for L2 learning, which consisted of the L2 linguistic input in the naturalistic setting and that in the classroom setting    | (1) age, language aptitude, cognitive style, and personality<br>(2) social-psychological factors, viz. motivation and attitude<br>(3) strategies adopted in the process of L2 learning and production<br>(4) first language & language universals<br>(5) other factors such as memory and gender |

The selection of learner-external factors for investigation was relatively straightforward. Since English is not the language for daily communication in China, the learners' linguistic environment mainly consisted of English classes in which English was taught and practised. Once outside the classroom, the learners' major source of English was English novels, magazines and newspapers. They may also have had access to limited English on radio and television. Therefore, English learning in the classroom and out-of-class contact with English were the two learner-external factors chosen for investigation in this study.

The selection of learner-internal factors for investigation followed three considerations. The first was the relevance of the factor to this study. The second was the relative importance, as shown in the literature, of the factor to L2 learning process. The third was the time limits for the research project. The factors of age and language aptitude were not chosen because (i) the learners to be investigated would be all adults, and (ii) they would all have passed the national English examinations (both written and oral) before being enrolled in university, suggesting an equivalent language aptitude. Thus, age and language aptitude were not relevant to the present study. Factors such as cognitive styles, personality, memory and gender were not selected for investigation because there was not much research into these factors and so how they contributed to the process of L2 learning was not clear. There has been consensus among researchers that first language, and language universals influenced L2 learning, but investigating when and how these linguistic factors affect L2 learning has proved to be a very difficult task (see, for example, the issues dealt with in Kellerman and Sharwood Smith, 1986). Due to the limits of time, this study was not able to take up this complex issue. Therefore, the learner-internal factors chosen



for investigation in the study were motivation, attitude, and strategies adopted in the process of L2 learning and production.

The decision to investigate the impact of the selected factors on oral English development within a single theoretical framework was due to the fact that research into L2 learning was generally fragmented. This was largely revealed through the contrast between the wide range of factors found to be related to L2 learning and fewer research attempts to discover how the factors interrelated in influencing L2 learning process. Efforts that had been made to look into the relationships between the factors were invariably found in those studies that investigated the correlation between a single variable and learner L2 proficiency. Examples are, the relationship between attitude toward native speakers and L2 proficiency; the relationship between learning strategies and L2 proficiency; and the effect of instruction on the ultimate level of L2. In addition, those types of study had been conducted under varying theoretical frameworks in order to answer different questions about L2 learning. From those studies, it is virtually impossible to obtain a comprehensive picture of how individual relevant factors interrelated to contribute to L2 learning.

In summary, the reasons that prompted the selection of research questions for the present study were related both to the personal experience of the author and to the contemporary state of research into L2 learning.

The personal experience of the author as a teacher of English in a university in China resulted in his desire not only to describe the oral English development of adult Chinese students of English but also to find out what factors influenced oral English development in the classroom setting.

Preliminary reading of the literature on second language acquisition convinced this author of the usefulness of the present study because there was little literature on oral L2 development in the foreign language classroom setting, let alone in the Chinese context. It also enabled him to decide on the adoption of a "function-form" approach to describe the oral English development of Chinese students of English. As indicated above, the bases for such a decision were that the target language production by L2 learners was characterised by its variability and that "function-form" approach had been found to be more capable than other approaches of accounting for the production variability. Reading previous research again enabled the author to select the learner-external and learner-internal factors for investigation. In the meantime, the fragmented nature of the research into L2 learning as revealed in the literature resulted in the decision that the possible impact of the learner-external and learner-internal factors on oral English development in the Chinese context should be examined within a single theoretical framework.

### **1.3 Key research questions for the study**

Two major problems, stated in 1.1, have indicated the general direction of the study in the investigation of adult English learning in the Chinese context. The first problem concerned the description of the classroom L2 learners' oral English development in terms of "function-form" relationships. The investigation of this problem entailed examining both the way(s) in which the linguistic forms the learners used were related with the ideas they wanted to express and the way(s) in which the development of the "function-form" relationships might be described.

The second problem concerned whether the selected learner-external and learner-internal factors for investigation influenced the learners' oral English development and if so, how. Logically, an assessment of the impact of those factors on oral English development should presuppose (i) a delineation of possible relationships between the selected learner-external and learner-internal factors, and oral English development in the classroom setting, (ii) the description of the learners' English language development as revealed from their oral English production (this was what the first problem was concerned with), and (iii) the description of the state of the selected learner-external and learner-internal factors in the same period of time when the same learners' oral English development was being described. Only with the above three types of information could even a partial answer to the second major problem be possible.

Thus, the two major problems could be approached as a whole. In other words, a framework would first be built which specified the relationships between learner-external and learner-internal factors, and oral English learning development in the classroom setting. Then an empirical investigation of the selected factors and the oral English production in terms of "function-form" relationships could be conducted over a period of time so that possible changes in the states of the selected factors and the development of oral English could be traced. Finally, the established framework could be used to interpret the results of the investigation. Therefore, to answer the two major problems entailed the provision of responses to the following six key research questions.

1. How might learner-external factors, learner-internal factors, and the learners' oral English development be interrelated in the foreign language classroom setting?
2. How might learner-external and learner-internal factors be described in a particular classroom?
3. Would the learner-external and learner-internal factors show any change over time? If so, how?
4. How might the "function-form" relationship as revealed from the learners' oral English production be described?

5. How might the learners' oral English development in terms of "function-form" relationship be described?

6. Would the learner-external and learner-internal factors influence the learners' oral English development in the way(s) described in the established linkage of the factors (i.e., in Key Question 1)? If so, how?

#### 1.4 *Content of remaining chapters*

Chapter 2. After the reasons for an indirect application of the existing theories of second language acquisition are stated, a review of some representative theories of second language acquisition is presented. The review results in the identification of four general aspects of second language learning dealt with in the theories, and of the relationships between the four general aspects as perceived by the theories. Then the general aspects of second language learning in which the factors to be investigated belong are examined and compared with those identified from the review of theories. Finally, relationships between the general aspects of second language learning in which the factors to be investigated belong are explored on the basis of the outcome of the comparison.

Chapter 3. A review of related empirical research in each of the four general aspects of second language learning is presented with the aim to specify further the relationships between the factors to be investigated. The review enables the identification of relevant concepts to the factors to be investigated and the relationships between some of the factors and their relevant concepts.

Chapter 4. The conceptual framework for the study, which delineates the relationships between the factors to be investigated, together with their relevant concepts, is described. In establishing this conceptual framework, consideration is given not only to relationships identified in Chapters 2 and 3, but also to the characteristics of English learning environment to be investigated in this study. The sub-questions for research, variables for investigation, and relationships to be explored, which flow from the conceptual framework, are then presented. The concept of "function" is also operationally defined.

Chapter 5. This chapter describes the research design, instruments adopted for the investigation of each variable, and methods of data collection, preparation and analysis. The analysis of the relationships to be explored is also described.

Chapter 6. The results for investigation into the subjects' learning context are the focus of this chapter. The observation is described of the subjects' classroom English learning experiences in terms of types of knowledge taught during instruction, types of classroom English practice, and classroom interaction between the teachers and the subjects. The subjects' indications of their out-of-class contact with English

during the three semesters are presented. ANOVA (one factor, repeated measure), the Cochran Q test, Wilcoxon signed-rank test are reported for examining the changes in the subjects' three categories of out-of-class contact with English during the three semesters of English learning at the university.

Chapter 7. This chapter presents the results for investigation into the subjects' attitudes, motivations, and learning strategies in relation to English learning. These consist of the subjects' indications of these characteristics during the data collection period, and ANOVA (one factor, repeated measure) for examining the changes in the subjects' indications of these characteristics during the three semesters.

Chapter 8. A description is given of subjects' English learning outcomes in terms of their internal presentations of their knowledge of the English language, and their oral English development in terms of "function-form" relationships during the three semesters of English learning at the university.

Chapter 9. The results for the investigation described in Chapters 6, 7 and 8 are interpreted in terms of the nine types of relationships between the investigated factors conceptualised in Chapter 4.

Chapter 10. After presenting a summary of the study, the final chapter discusses some conclusions drawn from the findings of the study, comments on their implications for English teaching in China, and puts forward some suggestions for future research in English learning in China.

## **Chapter 2 In Search of Theoretical Background: A Review of Some Representative Theories of Second Language Acquisition**

### **2.1 Need for indirect application of the existing theories of second language acquisition**

As indicated in 1.3 (p.6), before the question of whether, and, how, learner-external and learner-internal factors would influence oral English development in the foreign language classroom setting (i.e., Key Question 6) could be answered, a framework should first be established which specified the possible relationship between learner-external and learner-internal factors, and oral English development (i.e., Key Question 1).

The adoption of a theory of second language acquisition seemed a straightforward way of establishing the above relationships. Since this study was about L2 learning in a foreign language classroom, presumably it could best be guided by a theory of L2 learning in the classroom setting. However, no empirically-founded theory of L2 learning in the classroom setting was available at the time of the study. This lack of a theory of classroom L2 learning was also discussed in van Lier (1988). After examining the seven "most prominent theories" of L2 learning described in Ellis (1985a), he found that only Ellis' own Variable Competence Model "explicitly uses classroom data as analytical evidence..." He then went on to comment:

We thus have the curious situation that most second-language acquisition theorising ignores the L2 classroom as a relevant source of data and as a relevant place to apply findings. (p. 23)

In the absence of an empirically-founded theory of classroom L2 learning, an option could be the direct application of existing theories of second language acquisition. However, an assessment of the existing theories ruled out such a possibility. There were two reasons for this. First, most theories attempted to explain either *when* or *how* L2 learning takes place by referring to a single factor, viz., social, cognitive, or linguistic. They did not cover a range of factors required for this study. Although there were a number of theories which attempted to account for the whole process of L2 learning, they were mostly speculations based on separate research into different individual aspects of L2 learning. None of these theories had been tested empirically in its entirety and thus lacked empirical foundation. Second, none of the existing theories "would qualify as a theory in the strict sense of the

word" (Gardner 1985). Gardner went on to give reasons for this:

since not one of them comprises formal axioms, nor do any of them generate unequivocal predictions. Instead, each emphasises certain concepts, sometimes in specific circumstances or contexts, and attempts to organise or interpret data, .... They are descriptive, rather than predictive models, and all are often susceptible to different interpretations. (p.124)

Since the direct application of existing theories of second language acquisition was not feasible either, the only option left was the indirect application. The following steps were regarded by the present author as necessary for such an application:

(i) examine the existing theories of L2 learning to identify *general aspects* of L2 learning which they commonly dealt with,

(ii) establish the relationships between the identified general aspects, as commonly perceived by the existing theories of L2 learning,

(iii) examine in what general aspects of L2 learning the learner-external and learner-internal factors, and oral English development belong, and then compare the general aspects in which they belong to those identified from the review of existing theories of second language acquisition, and

(iv) on the basis of the comparison, explore possible relationships between the general aspects of L2 learning in which the learner-external and learner-internal factors, and oral English development, belong.

To simplify the expression, the term "learner-external and learner-internal factors, and oral English development" will from now on be referred as "the factors to be investigated (in this study)".

## 2.2. General aspects of L2 learning and their interrelation as perceived by the representative theories of second language acquisition

The existing theories of L2 learning were mainly of two types. One type attempted to explain the process of L2 learning mainly from a particular viewpoint and so was termed here as "single-perspective" theory. The other type attempted to account for L2 learning more comprehensively by integrating studies of various aspects of L2 learning. In this study, it was called "integrated" theory.

This review of theories of L2 learning is divided into three sub-sections. The first reviews some representative "single-perspective" theories. The second reviews some representative "integrated" theories. The third summarises major aspects of L2 learning commonly dealt with in the theories reviewed and the relationships between these major aspects of learning.

*i) Theories of L2 learning, Type 1: "Single-perspective" theories*

Three sub-types of "single-perspective" theories will be reviewed in this subsection. They are: theories with a social process focus, theories with a cognitive focus, and theories with a linguistic focus.

Theories with a social process focus Two theoretical models stood out as the more prominent among the theories with this focus. They were: the Acculturation/Nativization Model (Schumann 1978; Andersen 1980, 1981, 1983) and the Accommodation Theory (Giles 1979; Giles et al. 1977, Giles and Byrne 1982; Ball and Giles 1982). The common aim of these models was to explain why the L2 learning without classroom instruction took place in target language communities in the way it did. The explanation was sought by identifying mainly those social and cultural factors that motivated individuals to learn the target language, or prevented them from doing so.

The Acculturation Model (Schumann 1978) sees the acquisition or non-acquisition of an L2 as the result of acculturation or non-acculturation of the learner to the target language group. Acculturation, in turn, is determined by the degree of actual social and psychological distance between the learner and the target language group. The learner's social and psychological distance are mainly influenced by the relationships of the learner's social group with the target language group, the learner's attitude toward the target language and the target language community, and the learner's motivation to learn the target language. According to Schumann, social factors play a leading role in the process of acculturation, and psychological factors come into play when social distance is indeterminant, i.e., when social factors exert a neither clearly positive nor clearly negative influence on acculturation. The degree of acculturation determines the amount of contact the learner might have with the target language and also the degree to which the learner is open to the target language that is available. This, in turn, determines the final proficiency which the learner can achieve.

The process of L2 development in the target language community was described in Andersen's Nativization Model. L2 development was compared to the process of pidginization and of depidginization. In the process of pidginization (or nativization, in Andersen's term), the learner, through various strategies, simplifies the learning task by building hypotheses based on the knowledge in his/her possession, e.g., knowledge of his/her first language, knowledge of the world. Nativization is apparent in the early stage of L2 learning without classroom instruction, when the learner has only a very restricted access to the target language. In the process of depidginization (or "denativization"), the learner, by various inferencing strategies,

attempts to reshape his/her interlanguage in accordance with the target language system. This is apparent in later stage of L2 learning without classroom instruction, when the learner has more adequate access to the target language.

The Accommodation Theory attributes the learner's proficiency in a target language primarily to his/her level of motivation. This was seen to be the result of the degree to which the learner identifies him/herself ethnolinguistically with the target language community. The learner with high regard of his/her own ethnic group and language will tend to have low level of motivation for learning the target language, and accordingly will achieve only a low level of L2 proficiency. This is because he/she is likely to avoid informal language contexts and the only way he/she can learn the target language is through formal language instruction, which will put higher demands on the learner's intelligence and language aptitude. The learner who has lower regard of his/her own ethnic group and language will have a higher level of motivation and is predicted to achieve higher L2 proficiency. This is because he/she will benefit not only from formal language teaching, but also from his/her voluntary search for opportunities to learn the target language in informal language contacts.

Theories with a cognitive focus Two theories will be reviewed below. One comes from the application of a so-called information-processing approach to skill acquisition (e.g., Anderson, 1980, 1982; Shiffrin and Dumais, 1981; Schneider, Dumais, and Shiffrin, 1984) to second language learning (Levelt, 1978; Faerch and Kasper, 1983; McLaughlin et al. 1983; Hulstijin and Hulstijin, 1984). This theory deals with the cognitive processes involved in L2 *learning*. The other is Faerch and Kasper's (1980, 1986) theory, which is concerned with the cognitive processes involved in L2 *oral production*.

The process of acquiring a skill is conceptualised by the information-processing approach as one in which complex procedures, integrating elementary pieces of information, are established. Two notions are central to this conceptualisation. One is *controlled information processing*, and the other *automatic information processing*.

Controlled information processing refers to the learners' allocation of their limited attention (short term memory) to select and co-ordinate the pieces of information and to integrate them subsequently into procedures. Automatic information processing refers to the formation of a ready-made procedure in long term memory after repeated practice of the steps involved in the procedures.

When the information-processing view on skill acquisition is applied to learning cognitive skills such as mathematics and language, two stages are distinguished. One is a declarative stage, in which learners acquire declarative, propositional



knowledge. This knowledge has to be rehearsed in the working memory to keep it available for the interpretative procedures when it is put into use in general-purpose production. Therefore, the use of this knowledge is a slow process. The other is a procedural stage. In this stage, the knowledge is converted from declarative to procedural form by a gradual process of *compilation*. Compilation, in turn, consists of *composition*, and *proceduralisation*. Composition is a process of combining into a single production similar and sequential productions in solving a problem so that the production can speed up. Proceduralisation refers to procedures of creating new productions from the products of old productions whose declarative information need not be retrieved into working memory. Procedures of creation can be improved indefinitely by *tuning* and *restructuring*, which, in turn, may decrease or increase the number of sub-procedures.

In this view of cognitive skill acquisition, learning a second language is a process of establishing a procedural knowledge through the compilation of declarative language knowledge, and gradually tuning and restructuring the procedural knowledge. How fluently and automatically the language use can take place depends on the number of sub-procedures subsumed into overall procedures. The larger the number, the more fluent and automatic the language use will be. However, language skill acquisition is not merely a matter of speeding up the execution of similar procedures formed originally from declarative knowledge. Establishing new procedures which reorganise a body of facts and rules previously acquired is actually the essence of the language acquisition.

Faerch and Kasper (1980, 1986) regard the cognitive processes involved in L2 *production* as consisting of four stages: goal formation, planning, execution, and monitoring. In the first two stages, decisions are made upon what to say and how to say it. It is at these stages that the learner's prior knowledge of, and experience with, first and second languages influences the decision-making. Execution and planning are interrelated since execution might lead to the revision of the plan because of retrieval or articulatory problems. Alternatively, execution and planning take place at the same time. The process of planning and execution is monitored by the learner to see whether the established plan matches the communicative goal and whether the utterances match the communicative goal and formulated plan.

Theories with a linguistic focus The most influential theory with linguistic focus is the *Interlanguage Theory*. The focus of the theory is on the internal L2 system of the learner. The early concern of this theory was the perspective in which an interlanguage could be examined. For example, Selinker (1972) sees it as the product of five central cognitive processes involved in L2 learning, viz. transfer from L1, transfer from training, L2 learning strategies, L2 communication strategies, and

overgeneralisation of L2 linguistic material. Adjemian (1976) regards an interlanguage as governed by linguistic rules, like any natural language. However, it is incomplete by nature, and is in a state of flux. Tarone (1979) treats an interlanguage as a continuum of styles ranging from formal to vernacular. It is not only constrained by linguistic universals but also by the social contexts in which it is produced.

The recent concerns of the Interlanguage Theory included three questions of L2 learning. The first was how to account for systematicity and variability of interlanguage development (See 1.2, p.3). The second was how an interlanguage is acquired. The more recent trend has been to examine the process of acquisition from an interactive point of view, examining both how linguistic forms are mapped onto functions and how functions are mapped onto linguistic forms. The third issue was the role of first language in interlanguage formation. Instead of inferring first language transfer to the learner's L2 product, researchers examined transfer of first language as a process, which "results in learners taking different developmental paths to target-language mastery or makes it more difficult to learn certain construction" (McLaughlin 1987: 77). The influence of first language is also found in other aspects of L2 learning, e.g., a cognitive process of interlanguage rule formation (Schachter 1983) and interlanguage production (Kellerman 1979), L2 learners' choice of linguistic forms in L2 production (Schachter 1974; Schachter and Rutherford 1979; Wode 1981).

## *ii) Theories of L2 learning, Type 2: "Integrated" theories*

The so-called "integrated theories" were theories which were pieced together from research upon a wide range of variables in L2 learning. Empirical studies in this field have been fragmented in nature, and few attempts have been made to test these theories empirically. Therefore, most of them are little known. In addition, most of these theories are similar in their account of major learning aspects and how these aspects interrelate. So the selection of this type of theory for examination was based on the individuality with which the interrelationship of the aspects of learning was perceived. Three are reviewed in this section. They are: Krashen's Monitor Model (1981, 1982, 1985), Gardner's Socio-educational Model (1985), and Gass' framework of L2 learning (1988).

The Monitor Model The aspects of L2 learning covered in Krashen's Monitor Model can be found by the examination of the five central hypotheses of the theory. These five hypotheses are: (1) the Acquisition-Learning Hypothesis, (2) the Monitor Hypothesis, (3) the Natural Order Hypothesis, (4) the Input Hypothesis, and (5) the

### Affective Filter Hypothesis.

The first hypothesis concerns the cognitive processes involved in two distinct and independent ways of developing L2 competence, as can be seen from the definitions given by Krashen of the terms "acquisition" and "learning". The former is "a subconscious process identical in all important ways to the process children utilise in acquiring their first language"; the latter "a conscious process that results in 'knowing about' language" (1985, p.1). The concept, or rather, metaphor, of Monitor also refers to the cognitive process of consciously editing one's own L2 production by the "learned" rules of grammar. The Natural Order Hypothesis claims that the acquisition of certain morphemes and structures in English and other languages follows predictable stages of development, and thus it deals with the outcomes of L2 learning. The Input Hypothesis, as its name suggests, attempts to explain how L2 learning takes place by focusing on the target language to which the learner was exposed or, in Krashen's words, "comprehensible input". The Affective Filter Hypothesis deals with the conditions under which the learner might have access to the so-called "comprehensible input". As such, it focuses on the learner's affective factors in L2 learning. In summary, the major aspects of L2 learning covered in the five central hypotheses in the Monitor Model are: cognitive process of learning, learning outcomes, linguistic input to which the learner was exposed, and the learner's affective factors.

Interrelationships among these major aspects of learning can be delineated from the process of L2 language learning. As perceived by Krashen, the learning begins by converting "comprehensible input" into intake, i.e., "that portion of the L2 which is assimilated and fed into the interlanguage system" (Ellis 1985a: 159). The learner's language aptitude plays an important role in facilitating conscious *learning* by interacting with the intake. However, in *acquisition* situation, attitudes and motivation are more influential because low levels of these attributes might become the affective block to the intake. The cognitive processes involved in learning and acquisition are different, the former being conscious and the latter subconscious. The predictable or "natural" sequence of language development is the result of acquisition, not that of learning.

The Socio-educational Model The major components of Gardner's socio-educational model (1985) are: social milieu, individual differences, learning contexts, and outcomes. "The language acquisition process is viewed as involving a particular causal interplay of these four types of variables" (p.146).

The social milieu in this theory refers to the cultural context in which L2 learning takes place. Four types of individual differences are distinguished in this theory: intelligence, language aptitude, motivation, and situational anxiety. The importance

of these individual differences is that "... other things being equal, (the) four different types of individual differences... will influence achievement directly..." (p.147). These differences contribute to L2 learning in different ways. Intelligence "determines how well or how quickly individuals understand the nature of any learning task or any explanations provided" (p.147). The learner with high language aptitude can better apply their higher verbal and cognitive abilities to the new language. Motivation, which has attitude as its foundation, determines the level of activity at which the learner works to learn the target language. Anxiety associated with language learning has an inhibiting effect on language performance, thus it is an obstacle to language learning.

Two types of learning contexts are distinguished in this theory: formal and informal. The formal context refers to the classroom setting, and the informal to the naturalistic setting. The primary objective in a formal context is instruction, but, instruction is not important in an informal context. All four types of individual differences are regarded as influencing the learning process. Nevertheless, in an informal context, motivation and situational anxiety play a more important role than intelligence and aptitude in determining the L2 learner's achievement of skill, though these relationships are not constant. The learning outcomes are of two types: linguistic, e.g., grammar, vocabulary, pronunciation, and non-linguistic, e.g., "attitudes, values, etc. that develop from the (learning) experience" (p.147). These outcomes are not only regarded as the results of the influences by "prior cognitive (intelligence and aptitude) and affective (motivation and situational anxiety) characteristics" (p.147), but also seen as having important implications for subsequent L2 learning.

To sum up, this theory sees the process of L2 learning as taking place in a cultural context. The process of learning is influenced by learners' individual differences. However, in two different learning contexts, i.e., informal context and formal context, the roles of individual differences can be different. The learning produces both linguistic and non-linguistic outcomes, which, in turn, may influence the subsequent L2 learning.

Gass' integrated framework of L2 learning Gass (1988) proposed a framework in which she attempted to describe how the L2 learner converts input into output. This framework contains five variables: apperceived input, comprehended input, intake, integration and output.

Apperceived input is "that bit of language which is noticed in some way by the learner because of some particular features" (p.202). A number of factors were identified which might influence the learner's apperception of the "ambient speech". The first factor is frequency, which actually includes the ideas of both being very

frequent and being infrequent, as she pointed out,

Something which is very frequent in the ambient speech is likely to be noticed. On the other hand, particularly at more advanced stages of learning, stages at which expectations of language data are well established, something which is unusual because of its infrequency may stand out for a learner. (p.202)

The second factor includes the learner's affective characteristics such as social distance, status, motivation and attitude. The third factor is the learner's prior knowledge, which, according to Gass, includes "knowledge of the native language, knowledge of other languages, existing knowledge of the second language, world knowledge, language universals, etc." (p.202). The final factor is the learner's selective attention. These four factors are interrelated. For instance, prior knowledge might activate selective attention, which, in turn, might enable the learner to detect the mismatch between what he/she knew or produced on the one hand and the production of native speakers on the other. The level of the learner's motivation might determine the amount of input apperceived by the learner.

Gass argued for a distinction between "comprehensible input" (Krashen 1981, 1982) and what she called "comprehended input" when she said,

comprehensible input is controlled by the person providing input, generally (but not necessarily) a native speaker of the second language, whereas comprehended input is learner-controlled, that is, it is the learner who is doing the 'work' to understand as opposed to the person providing the language data. (p.204)

In addition to this distinction between speaker control and learner control, different levels of analysis can take place during the comprehension of the apperceived input. Intake was defined as "the process of assimilating linguistic material" (p.206), while integration was regarded as the result of the intake process. Integration is closely related with comprehended input and intake in the sense that what is finally integrated into the learner's existing internal L2 grammar is that part of input which has passed through both comprehended input and intake levels.

Gass identified some of the factors that mediate comprehended input, intake and integration. These factors are: "the organisational structure of the native language", which "may shape the way the learner's grammar is structured"; "existing knowledge of the second language", which "will also shape the way integration takes place"; and "universal principles of language", which "may also play a role in second language grammar formation" (p.208)

Gass warned against the equation of output (i.e., the learner's linguistic production) to the learner's grammatical system. She sees output as being constrained by a number of factors: the learner's personality factors such as confidence, the type of language task, and the learner's ability to retrieve one's L2 knowledge to express linguistic information.

To sum up, the basic thread that runs through Gass' framework is the cognitive

aspect of the process of L2 learning and production. In following this line, Gass also shows the interplay between the cognitive aspect and other aspects of learning. They include social and linguistic aspects of learning environment, and the learner's individual characteristics such as affective factors, prior knowledge (including first language) and personality, and learning outcomes, which consisted of grammatical system and linguistic production.

*iii) Aspects of L2 learning commonly dealt with in, and their interrelations as perceived by, some representative theories of L2 learning*

The aspects of L2 learning commonly dealt with in the theories of L2 learning reviewed above can be found easily from the following summary of the aspects of L2 learning dealt with in each theory. The summary is displayed in Table 2.

| <p style="text-align: center;"><i>Table 2</i><br/> <i>A Summary of Aspects of L2 Learning Dealt with in Each Representative Theory of L2 Learning Reviewed</i></p> |   |
|--|---|
| Name of Theory   | Aspects of L2 Learning  |
| 1. The Acculturation/Nativization Model  | social aspect of learning environment, individual characteristics (i.e. attitude and motivation), learning outcomes (i.e. process of nativization and denativization)   |
| 2. Accommodation Theory  | social aspect of learning environment, individual characteristics (i.e. attitude toward target language community)  |
| 3. The Application of Information-processing Approach to Skill Acquisition to Second Language Learning   | cognitive process in L2 learning (i.e., from declarative to procedural knowledge)   |
| 4. Theory of L2 Speech Production  | cognitive process in L2 production (i.e. goal formation, planning, execution and monitoring)  |
| 5. Interlanguage Theory  | learning outcomes (i.e. mainly the description of L2 learner's target language system)  |
| 6. The Monitor Model   | linguistic aspect of learning environment, individual characteristics, cognitive process of L2 learning, learning outcomes  |
| 7. The Socio-educational Model   | social aspect of learning environment, linguistic aspect of learning environment (i.e. formal and informal contexts), individual characteristics (i.e. attitude, motivation, intelligence, and language aptitude, anxiety), and learning outcomes (both linguistic and non-linguistic)  |
| 8. Gass' integrated framework of L2 learning   | social and linguistic aspects of learning environment, individual characteristics (i.e. social distance, status, motivation, attitude, prior knowledge, personality), cognitive processes in L2 learning and production (i.e. selective attention, intake process, ability to retrieve L2 knowledge), learning outcomes (i.e. grammatical system and linguistic production including the type of language task) |

It is clear from Table 2 that all the theories reviewed above dealt with one, or some, or even all of the following four aspects of L2 learning: *learning environment*, *individual characteristics*, *cognitive process*, and *learning outcomes*. Learning environment includes both social and linguistic aspects. Individual characteristics comprises a lot of personal factors, such as social distance, intelligence, language aptitude, prior knowledge, and personality. However, attitude and motivation are the two factors that have been most frequently mentioned. Cognitive process has been dealt with in relation to both learning and production. Learning outcomes have been divided into both linguistic and non-linguistic, as in Socio-educational Model, or into grammatical system and actual linguistic production, as in Gass' integrated framework of L2 learning.

The relationships between these aspects of L2 learning as perceived by those theories of L2 learning are diagrammatically summarised in Figure 1.

In all three "integrated" theories, attitude and motivation are regarded as the main factors that determine the extent to which the L2 learner would work on L2 data (i.e., the linguistic aspect of the learning environment), although other individual characteristics such as intelligence, language aptitude, situational anxiety and prior knowledge may also play some role. The state of attitude and motivation is in turn determined by the learner's perception of the target language community in social and psychological terms. In other words, the learner's attitude and motivation learning the target language are influenced by the social aspect of his/her learning environment, as indicated in the theories with a social process focus. Of these three theories, Gass' framework of L2 learning deals with the relationship between cognitive process and other aspects of L2 learning. Cognitive process is regarded as taking place after the learner has apperceived the linguistic input, the amount of which in turn is determined by his/her level of motivation. Learning outcomes are seen as the results of the learner's cognitive process in the Monitor Model, and Gass' integrated framework of L2 learning. Cognitive factors, first language, personality, and types of language task are also regarded as factors related to the production of learning outcomes, as indicated in the Theory of L2 Speech Production, and Gass' integrated framework of L2 learning. Only Socio-educational Model links the learning outcomes with the subsequent L2 learning. Although no mention was made of which aspect of L2 learning is the starting point of subsequent learning, it is probable that the starting point should be the learner's attitude and motivation. This is because these are determined by the social aspect of the learning environment, and

in the meanwhile, they determine the amount of linguistic input apperceived during L2 learning.

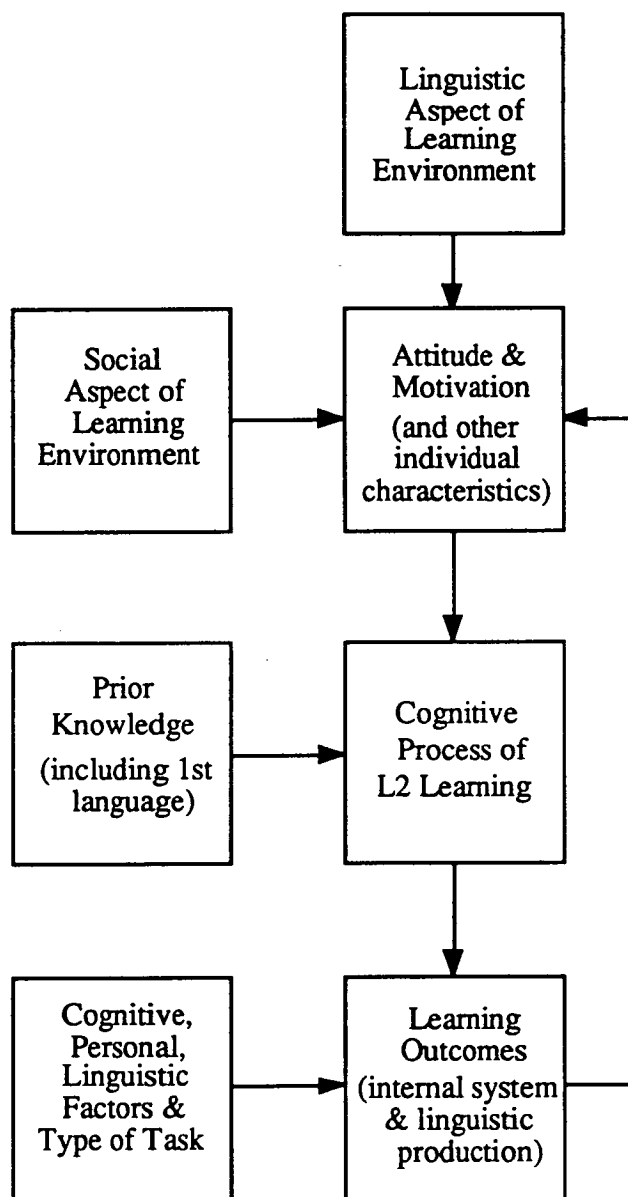


Figure 1. Summary of Interrelations between Aspects of L2 Learning as Perceived by Some Representative Theories of L2 Learning

To sum up, the amount of linguistic input taken in for learning is mainly determined by the learner's attitude and motivation. although other individual characteristics may also play some role. The level of attitude and motivation is in



turn determined by the learner's perception of the social aspect of learning environment. The cognitive process of learning begins after the amount of linguistic input is allowed in for learning, and the process is influenced by the learner's prior knowledge, including his/her first language. Learning outcomes are the results of the cognitive process of L2 learning. In addition, the production of learning outcomes is under the influence of the learner's cognitive, linguistic, and personal factors. Type of language task also influences the production of learning outcomes. Finally, learning outcomes have implications for the subsequent L2 learning.

### 2.3 Aspects of L2 learning in which the factors to be investigated belong

A closer examination of the factors to be investigated in this study revealed that these factors belong in the same aspects of L2 learning as commonly dealt with in the theories of L2 learning reviewed above. The description of Chinese learners' oral production in terms of "function-form" relationships meant that the learners' *learning outcomes* should be investigated. Since learning outcomes were the result of linguistic production, the *cognitive process* of production would also be taken into consideration (It was decided that the language universals and first language would not be considered in this study. Since only one type of task, i.e. oral production, would be investigated, the influence of task type on the learning outcomes would not be examined) The learner-external factors to be examined were formal English classes and out-of-class contact with English, which represented the learning environment in this study. The learner-internal factors to be investigated were attitude, motivation and learning strategies. Obviously, they all belonged in the learners' *individual characteristics*. Among them, learning strategies also implied the *cognitive process* involved during the learning of English as a foreign language.

Thus, the aspects of L2 learning in which the factors to be investigated were: learning environment, individual characteristics, cognitive process, and learning outcomes.

### 2.4 Possible relationship between the aspects of L2 learning in which factors to be investigated belong

So far, it has been shown that the factors to be investigated in the present study belong in the same aspects of L2 learning as those commonly dealt with in some representative theories of L2 learning. Since relationships between these aspects, as perceived by these theories of L2 learning, was known, the aspects of L2 learning in which the factors to be investigated belong could be related with each other in the same way as that perceived by the representative theories of L2 learning.

## **2.5 Summary of the Chapter**

Since no empirically-founded theory of classroom L2 learning was available at the time of the present study, and it was not possible to adopt directly existing theories of L2 learning to guide the study, a more complicated method of establishing relationship between the factors to be investigated in this study was necessary.

In this chapter, four tasks were accomplished in establishing such a relationship. First, some representative theories of L2 learning were reviewed and the general aspects of L2 learning commonly dealt with in the theories were identified. Second, the relationships between the general aspects of L2 learning as perceived by the theories of L2 learning reviewed were established. Third, general aspects of L2 learning in which the factors to be investigated belonged were examined. Finally, the relationships between the general aspects of L2 learning in which the factors to be investigated belonged were inferred on the basis of the results obtained in the first three steps.

It was found that the four aspects of L2 learning in which the factors to be investigated belong were the same as those commonly dealt with in the theories of L2 learning reviewed. It was inferred that the relationships between the general aspects of L2 learning in which the factors to be investigated belong were the same as those perceived by the theories reviewed.

## **Chapter 3 Review of the Related Research Literature**

### **3.1 The need to employ related research literature in order to specify relationships between the factors to be investigated in this study**

In the previous chapter, relationships were established between the four aspects of L2 learning in which the factors to be investigated in this study belong. These relationships have signposted the way in which the factors might be interrelated, but they are still not equivalent to the relationships between the factors. There are two reasons for such a judgment. One is that these relationships are too general; they do not specify the process of L2 learning in a foreign language classroom setting. The other reason is that some of the factors also need to be further specified. For example, English classes which the learners attended were one of the learner-external factors to be investigated, but which aspects of classes should be examined remain to be specified. Similarly, individual characteristics of attitude and motivation also had to be conceptually clarified before their investigation was possible.

To answer the above questions, research literature of adult L2 learning in the classroom setting should be consulted. First, this would help determine important concepts and variables related to some factors such as attitude, motivation and English classes. Second, it would help to specify how the concepts and variables related to these factors are interrelated. On the basis of the relationships described in Chapter 2, relationships between the factors to be investigated could then be established (i.e., to answer Key Question 1).

This chapter will consist of a review of research literature directly referring to four aspects of L2 learning identified in Chapter 2, viz. learning environment, individual characteristics, cognitive process, and learning outcomes. The review will be followed by a summary of the key findings of related empirical research on L2 learning. Then the overall weaknesses and strengths of the research literature will be discussed.

### **3.2. Research relating to the learning environment**

There is a vast volume of research on how L2 is taught and learnt in the classroom setting. Mainly descriptive, such studies have covered a wide range of behaviours of teaching and learning in the classroom. Efforts have also been made to

identify the factors that contribute to the occurrence of the behaviours observed and to associate some of the behaviours in the classroom with learning outcomes. Another characteristic of L2 classroom research is that the methodological approaches adopted in classroom investigation were under the influence of the research methods adopted in other disciplines such as education, sociology, psychology, anthropology, linguistics, and applied linguistics. These provided differing perspectives upon which L2 classroom researchers could view classroom L2 teaching and learning. The ages of learners, their first language backgrounds, and the types of classroom investigated were also highly diverse.

Despite all these diversities, the studies generally examined four aspects of L2 classroom teaching and learning. They were: characteristics of teacher talk during L2 instruction in the classroom, behaviours of learners in the classroom, interactions, both teacher-learner and learner-learner, in the classroom, and the effect of formal instruction on L2 learning.

This section will first discuss the methodological approaches commonly adopted in L2 classroom research, and then review empirical studies focusing upon each of these four aspects of classroom L2 teaching and learning.

#### *i) Methodological approaches to L2 classroom research*

Long (1980) defined L2 classroom research as

research on second language learning and teaching all or part of whose data are derived from the *observation or measurement* (emphasis mine) of the classroom performance of teachers and students. (p.4)

Long distinguished two approaches to L2 classroom research: Interaction analysis and the Anthropological approach. On the other hand, Chaudron (1988) regarded procedures for L2 classroom investigation as representing four research traditions, viz. psychometric, interaction analysis, discourse analysis, and ethnographic. The following review follows Chaudron's classification because it is more detailed and it also incorporates Long's classification (Long's anthropological approach is the same as Chaudron's ethnographic approach).

*The Psychometric approach*, "which followed as much as possible standard educational psychometric procedures" (p.13), was adopted to evaluate the effectiveness of L2 instruction during the period between post-World War II and the 1970s. The procedures of evaluation were: first, classroom instructional methodologies or instructional programs were classified into one type or another,

then learners were assigned into groups, each being taught by use of a certain method or a certain type of program. Finally, learners were measured by instruction-related achievement tests or standardised proficiency tests and statistical analysis performed to find out how the instructional methods or instructional plans had affected learning outcomes. Since most studies adopting this approach did not include classroom observation as a component of the evaluation, one could not be sure as to whether the instructional methods and programs so classified actually did what they were supposed to do. This uncertainty about what actually went on inside classroom cast doubt on the findings of this type of research (Allwright 1983; Long 1980; Chaudron 1988). Though in the late 1960s and early 1970s some researchers included observation of classroom process in their studies (Politzer and Weiss 1969; Politzer 1970, cited in Chaudron 1988), the studies were still limited in two respects. First, they failed theoretically to justify the choice of particular categories for observation instead of others. Second, they failed to provide theoretical links between the processes observed and learning outcomes (Chaudron 1988).

*Interaction analysis* is "the adoption, prior to the period of observation, of some kind of instrument with which to standardise both observers' data-collection procedures and focus" (Long 1980: 4-5). The focus of this approach is more on the social meaning of classroom interaction and the inferred climate of classroom. These instruments were mainly derived from those for research in "content" classrooms, i.e., where "history, maths, civics, science", etc., but not an L2, was the subject of instruction. These instruments were different in the following respects: type of recording procedure (category system, sign system, or rating scale), degree of inference required of classroom observers to make when evaluating an overt behaviour, number of categories used to evaluate an observed behaviour, ways of coding behaviours (multiple or not), sources of variables, intended research purpose, unit of analysis and range of behaviours and events sampled. (see Long 1980: 6-7 for a classification of instruments, and also Chaudron 1988: 31-40 for a discussion of some of the representative instruments) There appeared to be few strengths in this type of approach. Long (1980) mentioned two. First, some of the instruments "are relatively easy to learn and simple to use." (p.10) Second, since some of the instruments adopted low-inference categories and used easy-to-understand terminology to describe classroom life, the research could be more easily disseminated. However, there were often criticisms, which pointed out the following weaknesses of interactional analysis approach. They were:

- a failure to provide the theoretical rationale for the selection of dimensions of classroom life to be studied, or for the way to classify the events on each dimension,
- a restricted range of behaviours under study, concentrating heavily on what the teacher did or said,
- the coding of only superficial actions without considering their communicative value, and
- a failure to consider whether there existed consistent relationships between the events coded and the actual occurrence of these events (Mitchell 1985; Chaudron 1988).

While the interaction analysis approach mainly focused on the didactic aspect of classroom interaction, *the Discourse analysis approach* was concerned more with the linguistic and sociolinguistic aspects of the interaction. Most studies on L2 classroom interaction adopting this approach were influenced by the research of Sinclair and Coulthard (1975) into first language learning in the classroom. (See, for example, Grandcolas and Soule-Susbielles (1986), for a discussion of this influence on French foreign language classroom research. Chaudron (1988) also saw the L2 classroom discourse research as following Sinclair and Coulthard's analytic system).

The interaction analysts did not seem to have a unified view on the classroom interaction, as was shown in the highly diverse analytical systems of their instruments. In comparison, the discourse analysts conceptualised "classroom interaction as a hierarchically structured system of 'ranks',..." (Chaudron 1988: 40). The ways of determining interaction units in these two approaches were also different. In interaction analysis, it was determined by time periods; while in discourse analysis, the interaction was analysed into its formal and functional units (See Chaudron, 1988: 45, for a list of analytical units used in L2 discourse analysis). The general strengths of discourse analysis, according to Chaudron (1988), were first, that its hierarchical model enabled the higher level of interactional organisation to be analysed, and second, that the relationship between the levels in the hierarchy was theoretically sounder than the separate dimensions distinguished in interaction analysis. The main weakness of discourse analysis was that it was still not known how reliable and valid its analytic system is.

*The Ethnographic approach* (or Anthropological approach) to L2 classroom research began to emerge in the late 1970s. The procedures of this approach,

involve considerable training, continuous record keeping, extensive participatory involvement of the researcher in the classroom, and careful interpretation of the usually multifaceted data... (Chaudron 1988: 46)

This approach differs from Interaction analysis in three main respects. Firstly, it is "unstructured" (not "unsystematic") in the sense that it does not have the data-gathering device chosen prior to the observation. Instead, the researcher (or through him or her by informants) does the structuring. Secondly, the researcher does not set out, in theory at least, with preconceived notions as to the variables to be studied or with hypotheses to be tested. Thirdly, it not only requires the observation of obvious classroom behaviours, but also includes the collection of introspective and retrospective accounts of classroom events. Three basic types of procedures of investigation were distinguished within this approach. The first type was *participant observation*, i.e., "the observer takes a regular part in the activities he or she is studying, e.g., by becoming a member of a street gang or joining a political group" (Long 1980: 18). The second type was *non-participant observation*, i.e., "the observer does not take part in the activities being studied or pretend to be a participant in them." (Long 1980: 20) The third type was *constitutive ethnography*, which involved the exhaustive study of how classroom interaction was organised by filmed or videotaped data together with the comments of participants on the investigator's analysis after the event. The main advantage of this approach is that it did not restrict the scope of data-collection, and thus enabled researchers to collect "natural" data and make the description of classroom processes far more detailed and comprehensive. The major limitation was that its findings lacked generalisability.

#### ii) *Characteristics of teacher talk during classroom L2 instruction*

An examination of the literature on the language addressed by teachers to L2 learners in the classroom instruction showed that the focus of research had been on four general aspects of teacher talk: amount, function, modifications, and vocabulary and grammar explanations. Chaudron (1988) presented an extensive summary of research in this area, which will be referred to here. One characteristic of this summary is that the majority of studies listed were conducted in *mixed* classrooms. Of the 22 studies reviewed only three were conducted in the foreign language classroom setting, viz., Henzl (1973, 1979), and Ishiguro (1986).

*Amount of Teacher Talk* The general approaches adopted in the studies of amount of teacher talk in the classroom were Interaction analysis or Discourse analysis. The procedure of investigation generally involved the following

procedures. Firstly, observing different levels of classes representing different types of program; secondly, counting the numbers of both teacher and student utterances; thirdly, calculating the proportion of teacher talk to student talk; and finally, comparing the results across classes and program types. The general findings showed that teachers spoke far more than students did, though there were variations among teachers in this respect (Legarreta 1977; Bialystok et al. 1978; Enright 1984). Variations were attributed to the differences among teachers, program types, particular classroom organisation patterns, and even the unit of analysis (Chaudron 1988).

*Function of Teacher Talk* As in studies on the amount of teacher talk, studies on the functions of teacher talk also adopted either Interaction analysis (Shapiro 1979) or Discourse analysis (Milk 1982). The procedure was also similar: observing different levels of classes, which in some cases represented different program types, counting numbers of different functions of teacher talk, calculating the percentage of each function type in the total to find out how frequently each type was used, and finally comparing the results across classes and programs. However, the units of analysis were highly diverse (Shapiro 1979; Mitchell et al. 1981; Milk 1982; Frohlich et al. 1985), and so it was difficult to get a clear-cut picture of the functions identified. The more general functions of teacher talk found were: structuring, soliciting, reacting, responding and initiating, but the frequency with which each function was used in class differed across the studies (Bialystok et al. 1978; Shapiro 1979; Milk 1982; Tsui 1985). This difference was again attributed by Chaudron (1988) to variations among teachers, program types and classroom organisation patterns. Negligence of researchers "fully (to) report raw data with exclusive categories" was also regarded as a cause, because "few adequately rigorous contrasts can be made across teacher behaviours." (p.54)

*Modifications of Teacher Talk* There were a number of studies on how teachers modified their talk to L2 learners in the classroom. The basic assumption underlying this type of research was that modifications in teachers' talk would aid learners' comprehension. According to Chaudron (1988), these studies fell into three types in terms of their research design. They were: studies "which compared teachers' classroom speech to L2 learners, with measures of instruction to NSs or NNSs" (NS meant native speaker and NNS meant non-native speaker); studies "which compared the same tasks for either different NSs speaking to NNSs, or the same NSs' speech to NNSs and NSs..."; and studies "which compared the same teachers' speech to non-



native groups of different proficiency levels." (pp.58-59)

Chaudron regarded the findings of the first type of studies as less valid than those of the second and the third types. This was because in the first type of studies there was more than one uncontrolled independent factor, while the studies of the second and the third types controlled all but one factor.

The linguistic features of modifications under study were: phonological features, which included rate of speech, pauses, phonology, intonation, articulation and stress; vocabulary; syntax, which included length of utterance, subordination, markedness, grammaticality and sentence type distribution; discourse, which included framing moves and self-repetition.

The general picture emerging from the studies on *phonological features* showed that firstly, teachers usually spoke more slowly to L2 learners than to native speakers (Steyaert 1977; Wesche and Ready 1985) and their rate of speech also tended to be slower when they spoke to learners with lower proficiency (Dahl 1981; Downes 1981). Secondly, teachers used more and longer pauses when they spoke to L2 learners than when they spoke to native speakers (Downes 1981; Wesche and Ready 1985; Hakansson 1986), though it was not clear whether the extended pauses were intended for the learners' better comprehension or just due to other factors such as planning. Chaudron (1982), however, did find the conscious use of pauses in teachers' explanation of vocabulary to improve comprehensibility. Thirdly, when addressing L2 learners, teachers tended to speak louder, enunciate more clearly, use fewer contractions with auxiliary verbs, exaggerate their articulation, raise final intonation, and use more marked stress (Henzl 1973, 1979; Downes 1981; Chaudron 1982).

The findings of how teachers modified their *vocabulary* were not clear-cut. Some researchers found that the teachers they observed tended to use more basic vocabulary, i.e., fewer colloquial and idiomatic expressions, more concrete and proper nouns, smaller ratio of different varieties of words to total number of words produced (Henzl 1973, 1979; Mizon 1981; Chaudron 1982; Klieffen 1985); but others (Wesche and Ready 1985) did not find significant differences between teachers' speech to native students and to non-native students, which Chaudron (1988) attributed to the context (i.e., academic-oriented classes) and the proficiency of the learners (i.e., advanced level of proficiency).

As was indicated above, five types of teachers' *syntactic modifications* were under examination. Findings on *length of utterance* were conflicting. Using different

units of analysis such as "utterance" (Mizon 1981; Kliefgren 1985; Ishiguro 1986), "sentence", (Henzl 1973, 1979) and "T-unit" (Gaies 1977; Early 1985; Mannon 1986), these researchers found that teachers usually used shorter utterances in their talk to non-native learners, less proficient learners, or less familiar learners than to native speakers, more proficient learners or more familiar learners. The differences found in some of the studies were not statistically tested (Mizon 1981; Kliefgren 1985; Henzl 1973, 1979). Those which statistically tested the differences found them all significant (Gaies 1977, Early 1985; Ishiguro 1986; Mannon 1986). There were also some studies which found little or no significant differences in terms of length of utterance (Steyaert 1977; Dahl 1981; Wesche and Ready 1985). This insignificant result was attributed by Chaudron (1988) to the constraining factors such as task, subject matter of talk and individual differences of speakers.

The picture emerging from the studies on *subordination* features in teachers talk was equally confusing. A number of studies (Steyaert 1977; Dahl 1981; Wesche and Ready 1985; Mannon 1986; Pica and Long 1986) found no difference in the complexity of teachers' talk to native speakers and to non-native speakers, although Chaudron (1988) suggested that the nature of task might be the cause of this result for one study (Dahl 1981). However, other studies did find that when speaking to non-native speakers or less proficient learners, teachers used less complex language, as measured by T-unit (Gaies 1977; Hyltenstam 1983; Early 1985; Milk 1985), C-unit (Chaudron 1979) or subordinate clause (Henzl 1973, 1979).

Several studies (Henzl 1973, 1979; Mizon 1981) examined the *markedness* of syntax of teacher talk. They found that the teachers they observed used a higher proportion of verbs in the simple present tense in their speech to non-native speakers. Similarly, Long and Sato (1983) also found that the teachers used more verbs in simple present tense than those in non-present tense (i.e., future tense and past tense). Henzl (1973, 1979) found fewer syntactic structures, less inflectional complexity and less diverse case roles in the teachers observed. Wesche and Ready (1985) reported a higher proportion of the verb "to be", and more tensed verbs than non-finite ones in the teachers' speech to non-native speakers. Despite this seemingly evident tendency to use less complex structures in teachers' talk to less proficient learners, Chaudron (1988) was not sure about their evaluation when he said:

The general lack of systematic comparability of measures of markedness across studies makes it more difficult to judge their value as modifications in teacher talk,...

(p.79)

The findings on *grammaticality* in teachers' speech were varied. Some research found that generally teachers used grammatical and well-formed sentences in their speech to non-native speakers (Henzl 1973; Downes 1981; Hakansson 1986). However, Hyltenstam (1983) reported a frequent use of sentence fragments in the teachers observed. Ungrammatical features, which included omissions of function words, copula, subject or object pronouns, and articles, were occasionally observed (Downes 1981; Kliefgen 1985; Hakansson 1986; Ishiguro 1986).

*The type of sentence* most commonly used in teachers' speech was found to be the declarative statement (Early 1985; Ishiguro 1986; Pica and Long 1986). Also, more questions were directed to non-native speakers than to native speakers, and more questions were asked in conversations than in classrooms (Mizon 1981; Long and Sato 1983). Pica and Long (1986) found this tendency was associated with a teachers' greater familiarity with class and with teachers' higher level of experience. Chaudron (1988) regarded the instructional goals and methodology adopted as factors influencing the extent of use of questions.

Two features of *teachers' discourse* were examined: framing moves and self-repetitions. Generally, there was no significant difference in teachers' use of framing when addressing L2 learners and native speakers (Early 1985; Pica and Long 1986). However, teachers were found to use more self-repetitions, both exact and rephrased, in their talk to L2 learners than to native speakers (Early 1985; Ellis 1985b; Wesche and Ready 1985; Mannon 1986), though Pica and Long (1986) did not find such differences. Chaudron (1988) attributed Pica and Long's result to their research design.

*Vocabulary and Grammar Explanations* As indicated, all the studies on modifications in teacher talk have been based on the assumption that such modifications would aid learners' comprehension. However, as Chaudron (1988) pointed out, in most cases the comprehensibility of teacher talk was not investigated. Since it was found that teachers also adjusted their speech according to their familiarity with learners and instructional goals and methods, findings of this type of research should be treated with care, as Chaudron observed:

the issue of whether the observed modifications truly result from teachers' sensitivity to learners' need for comprehension remains unsettled. (p.86)

There were some descriptions of how teachers explained grammar and vocabulary to L2 learners in the classroom. Chaudron (1988) regarded this area as being "surprisingly little investigated" (p.86). Faerch (1986) identified four steps in

the process of teachers' explanation of grammar: problem-formulation, induction, rule-formulation and exemplification, the last two being optional. Faerch (1985) also found that the explanation of grammar did not necessarily involve the use of grammatical terminology; teachers and students mostly directed their metalinguistic attention to meaning, translation equivalents, and analogies between and within languages in the early stage of L2 learning, at least in the foreign language classrooms. Chaudron (1982), after comparing the subject-matter lessons taught to learners of English with those taught to native speakers, identified several methods teachers used to explain vocabulary, such as paraphrase, apposition, parallelism, exemplification and naming. Yee and Wagner (1984) offered a more detailed description. To them the sequence of teachers' explanation of vocabulary was as follows: focus + metastatement, explanation + explicit definition/rule, and restatement + partial repetition.

### *iii) Behaviours of the learners in L2 classrooms*

All studies of learner behaviours in L2 classrooms have been conducted in mixed classrooms. Few studies in foreign language classroom could be found. Two general aspects of L2 learners' behaviours in the classroom were examined: quantity and quality of L2 performance, and initiating actions in classroom interactions.

The studies on learners' L2 performance were based on the hypothesis that more practice in the target language helped to promote L2 development (Ellis 1980). Swain (1985) was more specific about the role of language production. His "output hypothesis" attributed three roles to L2 production. Firstly, output provided learners with opportunities to use their linguistic resources meaningfully. Secondly, in trying to convey their meaning precisely, coherently, and appropriately in meaningful communication, learners were "pushed" to develop necessary grammatical resources. Thirdly, unlike comprehension, which might require only semantic processing, L2 production forced learners to develop syntactic processing abilities. Swain found evidence which showed the "pushed" use of language helped L2 development. Her subjects, Grade Six L2 French immersion students, achieved higher mean scores in their written production than those of Grade Ten native French speakers. This was regarded as resulting from the fact that these L2 learners had had a great amount of demanding practice in writing.

Some studies compared learners' L2 performance with their own overall proficiency. Peck (1985) found that L2 proficiency was positively correlated with the amount and the rate of production in dyadic game-playing situation, but

negatively correlated with vocabulary variety. Learners' responsiveness in listening comprehension tests (Naiman et al. 1978) and in conversation (Strong 1983) were found to positively correlated with their L2 proficiency.

Three situational factors were found to influence the quantity and quality of learners' L2 performance in the classroom. They were: interlocutor, small peer group and task. In Porter's (1986) study, L2 learners spoke more with non-native speakers than with native speakers on three problem-solving tasks. Pica and Doughty (1985) found that their adult learners of English produced more, and not less grammatical, target language in peer groups than in teacher-centred groups. The differences in the quality of production in different situations were observed by Cathcart (1986b). In a longitudinal study, she found that her child L2 learners used longer and more complex requests for action when talking to adults than when addressing to peers. However, this increase in length and complexity of speech was also observed in situations where children were engaged in tasks with a joint goal, e.g., a joint block-building activity. The effect of task on production was examined in Duff (1986), in which more turn-takings were found in problem-solving tasks than in debate tasks, though no significant differences were found between the two types of tasks in terms of quantity.

Studies on initiating actions of L2 learners in classroom interactions were based on the assumption that learners who caused more target language to be directed to them through initiating interactions would generate more input and thus become more proficient. Generally, the findings of the studies on this topic did not warrant a direct relationship between learners' initiating actions, such as hand-raising, student-teacher questioning (Naiman et al. 1978), speech acts (Seliger 1977), and responses to teachers' general solicits (Day 1984, 1985) on the one hand, and development in their proficiency on the other. The causes for the inconsistency in findings could be traced from Day's (1984, 1985) comments on his inability to replicate Seliger's (1977) research. Day referred to the different operationalisations of initiating behaviours and different measures of proficiency tests as the causes of his failure to replicate the research. But initiating actions seemed to be positively correlated with learners' affective factors, e.g. motivation (Naiman et al. 1978).

Influences of learners' individual differences on learners' initiating behaviours were also investigated. The learners' individual characteristics under study were: age, talkativeness, gregariousness, proficiency and ethnic background. Most of the studies on the influences of age, talkativeness, gregariousness and proficiency were conducted with children L2 learners (Cathcart et al. 1979; Scarcella and Higa 1981; Cathcart 1983, 1986a; Strong 1983). The role of ethnic background in learners'

initiating behaviours was investigated by Sato (1982) and Duff (1986). The Asians in Sato's study, though greater in number, initiated significantly less than the non-Asians during the classes. However, Duff found that the Chinese L2 learners produced more target language (including taking more turns) in their interactions with Japanese learners. Chaudron (1988) suggested that factors such as ethnic group, age and personality might be related to initiating behaviours. Kocher and Potter (1985) regarded the proportion of ethnic group in class as an influencing factor on class participation.

*iv) Classroom interactions: learner-learner and teacher-learner*

Learner-learner and teacher-learner interactions in L2 classrooms were regarded as the best opportunities for learners "to exercise target language skills, to test out their hypotheses about the target language, and to get useful feedback" (Chaudron 1988: 118).

Learner-learner interactions considered here differed from the learner performance and learner initiating actions discussed previously. The former involved negotiation of meaning instead of merely responding and initiating, as was the case for the latter.

Studies on learner-learner interactions in the classroom all adopted experimental methodology. Two types of studies could be distinguished. One examined the effects of group organisation on interactive behaviours by comparing teacher-fronted classes with peer-groups engaging in a certain task. Long et al. (1976) found significantly greater number and more varieties of pedagogical moves, social skills behaviours and rhetorical acts in group work than in teacher-fronted classes. Doughty and Pica (1986) had a similar finding, but in their study significantly more frequent interactive behaviours (i.e., comprehension checks, confirmation requests, clarification requests, self- and other-repetitions, and repairing, preventive, or reacting acts) were related to the problem-solving type of task. Rulon and McCreary (1986) distinguished between negotiations of *linguistic* and *content* meanings. The peer-group in their study made more negotiations about lesson content, though the quantity and complexity of interactions were the same as those in teacher-centred class, where interactions were more on the linguistic/formal aspect of target language.

Other studies examined the effects of task type on learners' interactive behaviours. Duff's (1986) experimental study found that, compared with debate tasks, problem-solving tasks elicited more learner-initiated questions, more "referential" questions and more confirmation checks. In Gass and Varonis' (1985)

study, the learner who lacked the necessary information in a "one-way" task made more clarification requests, while on average, the number of clarification requests were the same in both "one-way" and "two-way" task groups, regardless of the numbers of participants who had the necessary information to accomplish the tasks.

A large number of studies investigated teacher-learner interactions in L2 classrooms. They fell into four general categories, viz. studies on how teachers addressed L2 learners and native-speaking learners, studies on code-switching in L2 classrooms, studies on teachers' questioning behaviours and studies on teachers' feedback as correction of learner errors.

The findings of the first type suggested that in classrooms where there were both L2 learners and native-speaking learners, low socio-economic status (Laosa 1979), learners' low proficiency (Schinke-Llano 1983), and teachers' perception of learners' ethnic groups (Sato 1982) contributed to the more negative treatment of L2 learners (i.e., more disapproving teacher behaviours, less teacher talk to learners, learners having fewer opportunities to be selected in class) by teachers. Though it was impossible to draw any conclusion from these studies as to whether negative treatment resulted in learners' eventual non-learning, Chaudron (1988) felt that such treatment "will at least not promote, and may inhibit, students' progress" (p.121).

The second type of study was concerned with the quantitative and functional aspects of teachers' choice of language (i.e., target language or learners' first language) in class. The factors contributing to teachers' choice of learners' first language or target language were found to be subject content, the teacher's language dominance (Bruck and Schultz 1977), classroom activity, individual characteristics of teacher-learner interaction (Wong-Fillmore 1980), learners' language preference and type of program (Chesterfield et al. 1983). The studies conducted in foreign language and immersion classrooms all found high levels of target language use; generally more than 70% (Mitchell et al. 1981; Mitchell and Johnstone 1984; Frohlich et al. 1985). Studies on the functional aspects of teachers' choice of language were all conducted in bilingual classrooms. Townsend and Zamora (1975), Legarreta (1977) and Milk (1982) all noted the differential functional distributions in teachers' use of Spanish (learners' first language) and English (target language). Guthrie's (1984) and Wong-Fillmore's (1980) studies suggested the role of instructional, managerial and social functions of classrooms in prompting teachers' use of learners' first language. The finding of Ramirez et al.'s (1986) study pointed to the possibility that program goals might determine the functional distribution of teachers' use of learners' first language and target language.

The third type of study - on teachers' questioning behaviours in L2 classrooms - was mainly concerned with the following aspects of teachers' questions: type, modification, questioning pattern and questioning act.

Most studies on teachers' question *type* found that teachers asked more display questions than referential questions in classrooms (Long and Sato 1983; Early, 1985; Pica and Long 1986). It was assumed (Chaudron 1988) that referential questions could better promote the meaningful communication between teacher and learner because they require the learner to provide information which the teacher did not yet know. The teacher's choice of type of question might also be influenced by the type of class. For example, Bialystok et al. (1978) found that teachers in immersion French class used more open questions than those in core French class.

Findings of studies on teachers' *modification* of their own questions were varied. Long (1981) found that more questions rephrased with alternatives were asked in native teacher-L2 learner interactions than in NS-NS interactions. In White and Lightbown's (1984) study, 64% of teachers' questions were just repetitions of previous questions. Buckheister and Fanselow (1984) noted that only 15% of the teachers' classroom questions provided clues to help learners after they had failed to understand a previous question. Shrum and Tech (1985) observed teachers' "wait-time" in foreign language classrooms. They found that the "wait-time" was very short in two types of situation, i.e., after teachers' solicitation and after the subsequent learner responses. They attributed this to learners' familiarity with task - pattern drill.

Only one study was found which dealt with the *questioning pattern* of teachers. Chaudron (1983a) discovered that the teachers in his study sequenced their questions so as to focus on a certain topic, to exemplify a general question, or to obtain learners' responses.

Three types of *questioning acts* have been dealt with in studies on teacher-learner interactions in L2 classrooms. These were: comprehension checks, confirmation checks and clarification requests. According to Long and Sato (1983), the function of these acts

...reflects (among other things) the direction of information-flow in preceding utterances and, indirectly, the degree to which conversation is negotiated through the modification of its interactional structure. (p.275)

Ellis (1985b) found few instances of these three types of questions in the teachers' interactions with two adolescent English L2 learners during two observation times. Early (1985) observed more frequent use of comprehension checks by teachers of English as second language than by teachers teaching native-speaking learners. Long and Sato (1983) and Pica and Long (1986) compared the three types of questioning acts used in class with those used in NNS-NS conversations, and found that comprehension checks were more common of the three in class, but were less used in NNS-NS conversations. NNS-NS conversations



were characterised by the more frequent use of confirmation checks, which were less used in classrooms. Clarification checks were found to be the least used in both situations. However, Pica and Doughty (1985) showed that the three types of questions appeared more frequently in teacher-fronted activity than in group activity, though students in groups had more interactions and produced larger amount of language.

The fourth type of study, on teachers' feedback as correction of learner errors, mainly investigated four aspects of teachers' feedback on learner errors. They were: L2 learners' attitudes toward the correction of their errors, occasions on which teachers preferred to correct learner errors, types of learner error that were corrected, and types of feedback and its characteristics.

The main findings of research into *L2 learners' attitudes toward the correction of their errors* suggested a generally strong preference among the learners to greater correction of their errors (e.g., Cathcart and Olsen 1976; Chenoweth et al. 1983). Such a strong desire to be correct was regarded as the possible result of the low rate of correction during these learners' social interaction with native speakers (Chenoweth et al. 1983).

Studies that investigated *occasions in which teachers preferred to correct learner errors* found that the pedagogical focus of the lesson might be a determinant of teachers' correction of learner errors. Courchene (1980) and Chaudron (1986) both found that the teachers in subject matter classes corrected more subject content errors than grammatical errors, while in language classes, especially in the foreign language classes, grammatical errors were either more often corrected (Chaudron 1986) or less often ignored (Lucas 1975; Yoneyama 1982). The differences in the focus of instruction could also result in differing degrees of attention to errors. Generally, more corrections of errors would occur when the instructional focus was on language form than when the focus was on a freer communicative use of the target language (Lucas 1975; Hamayan and Tucker 1980; Salica 1981).

Chaudron (1988) summarised the studies in which *types of learner errors that were corrected* were discussed. He found the following categories of learner errors: phonological, grammatical, lexical, content and discourse. For each category of learner error, when the percentage of the total errors was compared with that of the errors that were treated, it was found that the larger the percentage of total errors, the smaller the percentage of the errors that were treated. To Chaudron, this meant that "the more a type of error is made, the less likely the teacher appears to be inclined to correct it" (p.140).

There were many attempts at categorising *types of feedback* (Allwright 1975). However, categories in these classifications generally "require high-level inferences about the interactants' intentions, and knowledge to be derived from the discourse

structures and the context, or from independent inquiries" (Chaudron 1988: 145). Chaudron (1977, cited in Chaudron 1988) proposed a classification which was characterised by, according to himself, "a more elementary, low-inference set of structural types and features of corrective discourse which involve fewer assumptions about intentions, effects, or context" (p.145).

Four *characteristics of the feedback types* could be distinguished. The first was the ambiguous nature of the repetition of the learner's utterances by the teacher because it could have a corrective function or a non-corrective function (i.e., expressing agreement, appreciation or understanding). Repetition was found to be very common when the teacher provided corrective feedback (Salica 1981; Nystrom 1983; Speidel 1984). The second characteristic was found in those repetitions that served the corrective function. Usually, this type of repetition contained the modifications of the learner's original utterances or indications that the repetitions were corrections but not confirmations. However, this type of repetition was often ignored by learners because of their inadequate knowledge of grammar or because of the similarity of the contexts in which other types of repetition might also occur (Fanselow 1977). The third characteristic was the ways in which feedback types were provided. A number of studies indicated an inconsistency in feedback provided by teachers (McTear 1975; Stokes 1975; Fanselow 1977). The final characteristic of feedback types was a semantic one. Long (1977) distinguished between "feedback" and "correction". The former referred to teachers' attempts to inform learners of the correctness of their production, while the latter to the effects of feedback on learning. Chaudron (1977, cited in Chaudron, 1988) also defined "error treatment" from both the learner's point of view and the teacher's point of view. The former included the treatments that resulted in the learner's ability to self-correct and in the subsequent correct response from the learner, while the latter included the teacher's reaction, both positive and negative, to the learner's production.

#### v) *Effects of formal instruction on L2 learning*

The effects of language instruction on L2 learning were investigated by examining how the rate/success of learning and the process/sequence of learning were affected by instruction (Ellis 1985a).

Most studies on the effects of instruction on rate/success of L2 learning were conducted in *mixed* L2 classrooms. For example, of the 12 studies reviewed in Long (1983), only two were conducted in foreign language classrooms, viz. Carroll (1967), Chihara and Oller (1978). The design of the studies usually involved comparing learners who received instruction and those exposed to the target language with or without instruction. The purpose was to find out whether

instruction or exposure produced better results. The findings were not conclusive, but they seemed to point to the benefits of instruction. Long's review of the twelve studies found that six of them showed that instruction helped, two produced ambiguous results, three showed that instruction did not help and one showed that exposure helped. Long claimed that

instruction is beneficial 1) for children as well as adults, 2) for beginning, intermediate, and advanced students, 3) on integrative as well as discrete-point tests, and 4) in acquisition-rich as well as acquisition-poor environments. (p.359)

However, it was too early to accept without reservation the effectiveness of language instruction for three reasons. Firstly, the overall amount of combined exposure and instruction was not controlled in most of the studies reviewed by Long, so it was difficult to know if the results that showed the importance of instruction did not reflect a greater overall opportunity for learning both inside and outside of the classroom. Secondly, the learner's motivation was not considered. It is possible that the effect of instruction was also a reflection of stronger motivation on the part of classroom learners. Finally, none of the studies obtained data about how instructions were actually carried out in classrooms. So there was no way of knowing whether it was instruction that had helped to promote L2 learning.

The effects of instruction on process/sequence of L2 learning were examined by comparing classroom and naturalistic L2 learning and conducting classroom experiments designed to make sure whether teaching a specific item resulted in its learning.

The features investigated, in comparing classroom and naturalistic L2 learning, were mainly L2 errors (Felix 1981; Felix and Simmet 1981; Lightbown 1983), acquisition order of grammatical morphemes (Perkins and Larsen-Freeman 1975; Fathman 1978; Turner 1979; Pica 1983, 1985; Lightbown 1983, 1987), development sequence of some syntactic structures such as negative and interrogative (Ellis 1982, 1984a; Eubank 1987; Weinert 1987), relative clauses (Pavesi 1984; 1986) and word order (Ellis 1989). The general picture emerging from these studies showed that firstly, instruction was powerless to affect the route of development of these linguistic features observed in the naturalistic setting. Secondly, instruction might push learners further along the developmental sequence, but it might also encourage learners to use alternative production strategies, and thus inhibit the progress. Finally, instruction might cause "over-learning", which had to be overcome before real interlanguage development could take place.

Design of the experimental studies followed the similar "pre-test - treatment - post-test" pattern. They fell into three groups. The first group consisted of studies that examined whether learners gained accuracy in the specific structures after those

structures were taught. Using data-collection techniques such as elicitation of spontaneous speech, imitation test and grammaticality judgement test, researchers examined linguistic features such as English negatives (Schumann 1979), English -s morpheme performing five functions, linking verb "be", locative prepositions indicating motion toward a goal (Lightbown et al. 1980), four WH pronouns and inversion in interrogatives (Ellis 1984b). Generally it was found that instruction seemed to have no effect on spontaneous speech; that instruction could help improve accuracy in careful, planned speech production, though this improvement might disappear over time when more "natural" process took over; and that practice alone might not help to improve the accuracy in speech production.

The second group consisted of studies that examined whether the sequence of acquisition found in naturalistic SLA research could be disrupted by language instruction. The theoretical basis for this kind of research was the Multidimensional Model (Meisel et al. 1981). Based on this theory, a six-stage development was established through which learners of German were claimed to have to pass before they acquired the target linguistic rules (Pienemann 1986; Johnston 1987). The linguistic features examined in this type of studies were German inversion and copula (Pienemann 1984), German word-order (Daniel 1983, Westmoreland 1983), German particle rule, inversion, verb-end, and perfect tense (Pienemann 1987). The major finding of the studies was that instruction helped only when it taught the features that were *one* stage ahead of the learner's current developmental stage. But the model and the findings incurred a number of criticisms. The major ones were, that no qualitative or quantitative criteria were set in these studies to judge whether a specific developmental feature had been acquired, and that it was not clear whether the processing operation involved in the acquisition of a feature applied to learning or to production or to both (Hulstijn 1987). In addition, no information was provided about how instruction was actually carried out, despite the fact that it was the effects of instruction that had been examined.

The third group comprised studies that examined whether instruction of feature x would not only result in the acquisition of that feature but trigger the features y, z, ...n as established by implicational universals. Implicational universals refers to a model that related the presence of one linguistic property to the presence of one or more properties. Zobl (1983) credited L2 learners with a projection device, which enabled the learner to acquire all the features that clustered with a feature once that feature was acquired. The linguistic features that were examined are English relativisation (Gass 1979), English possessive adjectives (Zobl 1985), and relative clause (Henry 1986). Generally, the above studies suggested that firstly, implicationally associated features could be acquired through instruction together with the feature that had been taught; secondly, instruction in marked features (i.e.,

features that are difficult to acquire because they are not universals) could facilitate the acquisition of unmarked features (i.e. features that are easy to learn because they are universals), but not *vice versa*; and thirdly, instruction in unmarked features might cause learners to simplify their interlanguages, but instruction in marked features helped the process of complexification.

### 3.3. Individual characteristics of L2 learners

A wide range of L2 learner's individual characteristics were covered in the empirical studies attempting to investigate how the individual characteristics affected L2 learning. These characteristics have been summarised in Table 1 (p.4). The L2 learner characteristics reviewed in this section are motivation, attitude, and strategies adopted during L2 learning and production (or learning strategy and communication strategy), because they were the factors to be investigated in the present study.

#### *i) Research related to the role of motivation and attitude in L2 learning*

The role of motivation From a review of literature in this area, three characteristics can be distinguished. First, the major approaches to describing the role of motivation in L2 learning were all social-psychological (Gardner and Lambert, 1959, 1972; Lambert, 1967; Gardner, 1980, 1983, 1985; Schumann, 1978; Giles and Byrne, 1982; Dulay et al., 1982; Krashen, 1985). Second, the research, especially early research (Gardner and Lambert, 1959), tended not to distinguish between motivation and attitude. Third, the research in this area has been heavily influenced by the works of Gardner and Lambert.

The early constructs proposed by Gardner and Lambert to describe this affective factor were integrative motivation and instrumental motivation. People with integrative motivation were said to wish to identify with another ethnolinguistic group; while those with instrumental motivation were said to learn the L2 just for the benefits they could obtain by knowing that language. The early studies based on these concepts were carried out either in Canada or in certain contexts in the USA. The findings suggested the superiority of the integrative motivation to instrumental motivation in sustaining learners' long-term interest in the target language, which was regarded as necessary for the mastery of L2 (Spolsky 1969). Later studies conducted in the foreign language classroom setting challenged this view, as the findings indicated that instrumental motivation could be as effective as integrative motivation in promoting L2 learning (e.g., the Philippine study, cited in Skehan 1989), and sometimes even more effective (Lukmani 1972). Causes for such a discrepancy in findings were attributed to the ambiguity of the definitions for the constructs and situational factors of learning contexts (Clement and Kruidenier

1983). The direction of motivational influence was also examined in Strong (1984). Contrary to the usual belief that motivation promoted acquisition, he suggested that it was the other way around, that is, motivation could result from acquisition.

It is worth noting that in research of L2 learning, in the relationship between motivation and other aspects of learning, attention has been generally on the relationship between motivation and L2 proficiency. However, in the field of general learning, the relationship between motivation and learning strategies also received attention. For example, Biggs (1987a) empirically examined the common approaches to academic learning adopted by secondary and tertiary students. Since English is also taught in China as an academic subject, his research is pertinent.

Biggs (1988) defined an approach to learning as "a particular motive for learning that is associated with a congruent strategy" (p.197), and he further distinguished three single approaches, viz. surface, deep, and achieving, and one composite - deep-achieving - among the ways in which the students consistently approached academic tasks.

The surface approach, according to Biggs, was characterised by a basically instrumental or extrinsic motive which was associated with essentially reproductive strategies. In other words, "surface motivated students focus on what appear to be the most important topics, and reproduce them fairly exactly" (p.198). Intrinsic motivation or curiosity, together with the strategies which aimed to "satisfy that curiosity by finding out what one can, and understanding, using and extending that knowledge" (pp.198-199), represented the important features of the deep approach. The achieving approach consisted of a competitive or ego-enhancing motive which went with obtaining high grades and the type of strategy that

comprises those organisational behaviours that are supposed to characterise the model student, such as keeping clear notes, planning optimal use of time, and all those planning and organisational activities referred to as 'study skills' (p.199)

Finally, the deep-achieving approach was the combination of the motives and strategies characteristic of deep approach and achieving approach.

The role of Attitude Studies on the role of attitude in L2 learning mostly focused on the learner's attitude toward speakers of the target language. Findings of the earlier studies all indicated a positive relationship between such an attitude and L2 proficiency (Scherer and Wertheimer, 1964). However, later studies found that learning contexts might play some role in determining the relationship between this type of attitude and L2 proficiency. Chihara and Oller (1978), for example, found that correlations of attitude measures with L2 proficiency in some Japanese students learning English in Osaka were mostly weak. Similarly, a positive attitude towards English speakers was found to be largely irrelevant to English proficiency among

Israeli English learners (Cooper and Fishman 1977). The direction of relationship between attitude to speakers of target language and L2 proficiency was also examined (Hermann 1980). The result, like that of Strong's (1984) in his study of motivation, also suggested that it was enhanced proficiency that resulted in the formation of such an attitude. Regarding the relationship between attitude, motivation and L2 learning, Gardner (1979) claimed that it was a linear one, in which attitude affected motivation, which in turn affected L2 learning. But there was no general agreement on the existence of such a relationship (Ellis, 1985a).

In addition to learners' attitudes towards speakers of target language, learners' attitudes toward the learning environment were also examined. Brown (1983) suggested that learners' success in L2 learning was affected by their attitudes toward the learning situation. Schumann and Schumann (1977) found that if the teacher's agenda was very different from that of the learners, learners could develop negative attitudes toward the learning environment.

#### *ii) Learning strategies of L2 learners*

Faerch and Kasper (1980) distinguished between two major types of learning strategies: psycholinguistic and behavioural learning strategies. The former referred to the hypothesised and thus unobservable strategies learners employed during the hypothesis formation stage of L2 learning. The latter referred to the strategies used by learners during the hypothesis testing and rule automatization stage of L2 learning. Empirical studies of learning strategies were of the latter.

The major method of early research into learners' behavioural strategies was the observation of L2 learners in the classroom (Wong-Fillmore 1976; Naiman et al 1978). This was criticised (Cohen 1983) for not being able to capture what the learners were thinking about, how they were thinking and how they were feeling. This criticism seemed to be valid, as was indicated in Rubin's (1981) study. The study initially used classroom observation to gather data on learner strategies. However, the method did not yield useful results. It was by directed self-report that the relevant data were obtained. Though the more recent research has often been based on the learners' reports of their own insights into their learning strategies, which included "self-report", "self-observation", and "self-revelation" (Cohen 1983), the validity of this type of subjective evidence has also been questioned (Seliger 1983). In addition to the problem of validity, greater ability to express oneself was regarded as a factor complicating the interpretation of self-report data on learning strategies. Skehan (1989) summarised this point as follows:

It is possible ... that some people are capable of more precise, detailed and organised thought perhaps because of decontextualisation ability, analytic capacities with verbal material, or memory, or other factors. This is what enables them to reflect on their own language learning experiences effectively, and report them so well. These same abilities may be those which are also important in language learning success. Less successful learners may not have experienced success for the same reason they could not report strategies, i.e. lack of these very same capacities. (p.80)

Other data-elicitation methods used in this type of research were the questionnaire and interview.

Studies of learning strategies can be divided into two types. One dealt with the categorisation and classification of learning strategies. The other was characterised by its attention not only to the learning strategies per se, but also to the relationship between learners' strategy use and their L2 proficiency level.

Representative studies of the former type were Wong-Fillmore (1976), Naiman et al. (1978), and Rubin (1981). The learners studied were either university students (Naiman et al. 1978; Rubin 1981) or children in a naturalistic setting (Wong-Fillmore 1976). The findings generally showed similarities as well as differences. The similarities were: first, the learners were able to make use of the learning situations, as shown in "active task approach" (Naiman et al. 1978), "clarification/verification", "memorisation", and "practice" strategies (Rubin 1981), and "get some expressions", "make the most of what you've got", and the social strategies (Wong-Fillmore 1976). Second, the learners were capable of choosing their preferable learning techniques, as shown in "realisation of language as a system" (Naiman et al. 1978), "guessing/inductive inferencing" and "deductive reasoning" (Rubin, 1981), and "look for recurring parts in formulae" (Wong-Fillmore, 1976). Third, the learners were able to evaluate their own language performance, as shown in "monitoring of performance" (Naiman et al. 1978), and "monitoring" (Rubin, 1981). Differences in the findings seemed to be related to the learners and learning situations. Strategies employed by the learners in Naiman et al. and Rubin were mostly metacognitive. This might be due to the fact that the learners were university students in the classroom setting. Comparatively, the strategies found in Wong-Fillmore's study were social and non-metacognitive, which might be due to the fact that the learners were children in a naturalistic setting.

Politzer and McGroarty's (1985) study belonged to the latter type, i.e., a study examining the relationship between learners' strategy use and their L2 proficiency level. The method adopted was the administration of a questionnaire and three pre- and post- course proficiency tests to a group of 37 university students (both Hispanic and Asian) of English as L2 in the United States. The questionnaire consisted of 53 items under three sections. The three sections were concerned with strategies used in



three different situations: classroom, individual study and interaction with others outside classroom. The proficiency tests were: an aural comprehension test, a grammar test, and a communicative competence test. Few significant relationships were found between strategy use and proficiency scores (4 out of 14 in Classroom section, 4 out of 15 in Individual Study section, and only 2 out of 22 in Interactions section). The relationships found were complicated and hard to interpret. This study was seriously flawed in terms of the questionnaire used to collect data. Being inconsistent internally, the questionnaire produced results which were not meaningful at item level. O'Malley et al. (1985) also tried to find out the strategies used by adolescent subjects in learning English, and the link between the learners' strategy use and their proficiency levels. The data-collection methods used were interviews with the learners and their teachers, observation, and self-report. The former two methods were found to be unproductive, and so the focus of the research was on self-reported data. Twenty-six strategies were identified. They fell into three categories: metacognitive (9 strategies), cognitive (16 strategies), and social (1 strategy). Most of the strategies identified in Wong-Fillmore (1976) and Naiman et al. (1978) were not reported in O'Malley et al. (1985). On this, Skehan (1989) commented:

No doubt this reflects the different settings for the respective studies, i.e., classrooms vs. naturalistic environments." (p.87)

In terms of the link between strategy use and proficiency level, O'Malley et al. found that learners at both intermediate and low proficiency levels mostly used cognitive strategies. The intermediate level learners employed more metacognitive strategies than the low level learners. The strategies used were also found to be linked with tasks. Rote-learning strategies, such as repetition and note-taking, tended to be associated with the tasks which were conceptually less complex (e.g., vocabulary learning, pronunciation, oral drill).

Huang and Van Naerssen (1985) also examined the relationship between strategy use and proficiency level. Their subjects were graduating Chinese university students of English at both high and low proficiency levels. The data were collected by a questionnaire and an in-depth interview. The focus was on the use of formal practice, functional practice, and monitoring, three major types of learning strategies identified in Bialystok (1979). No significant differences were found between high and low proficiency learners in using formal practice and monitoring strategies. But high proficiency level learners were reported to use more functional practice strategies than did low proficiency level learners. The strategies producing significant differences between the two groups were first, speaking English with

other students, teachers, and native speakers; second, thinking in English, and third, participating in group oral communicative activities. Other functional practice strategies, such as attending lectures and watching TV and films, did not produce significant differences between the two groups.

### *iii) Communication strategies of L2 learners*

It has been found that the distinction between communication strategies and learning strategies is hard to draw. Bialystok and Sharwood Smith (1985) pointed out that "the effect of employing a particular strategy in a given context may be either one of learning more about the language, or one of solving an immediate communication problem, or both" (p.114).

Much of the research in this area has been a categorisation of what L2 learners did in certain problematic circumstances during oral L2 production. The main efforts in this respect can be found in the works by Varadi (1973), Tarone et al. (1976), Corder (1978) and Faerch and Kasper (1980). Faerch and Kasper's study was perhaps the most comprehensive in their classification of communication strategies. Based on the theory of speech production (2.2.1 (ii)), they divided the strategies into three major types.

The first type included formal reduction strategies, which might occur in the planning stage of the production. The learner's purpose of adopting this type of strategy was to "avoid producing non-fluent or incorrect utterances by realising insufficiently automatised or hypothetical rules/items" (p.99). The formal reduction strategies were mostly applied to phonological, morphological, syntactic and lexical levels of IL system because of their status in the communication.

The second type was functional reduction strategies. L2 learners could use them in both the planning and execution stages of the production to avoid the problem caused either by the insufficient linguistic resources (planning stage) or by the failure to retrieve the items needed (execution stage). The employment of this type of strategy might result in three possible behaviours in the learner: avoid the topic, abandon the message, and replace the meaning.

The third type was achievement strategies, which could also occur during the planning and execution stages of production. Adopting this type of strategy, the learner "attempts to solve communicative problems by expanding her communicative resources" (p.99). Achievement strategies could further be divided into three subtypes, viz. "strategies aimed at solving discourse problems", "strategies aimed at solving linguistic code problems", and "strategies aimed at solving retrieval problems" (p.99). How learners went about solving discourse problems was still not very clear, as "it is difficult to tell whether learners are aware of their having

problems in discourse structures" (p.92). But it was found that a large number of specific strategies could be subsumed under the second and the third subtypes of achievement strategies. Specific strategies under the second subtype were: code-switching, inter-lingual transfer, inter-/intra-lingual transfer, interlanguage-based strategies (including generalisation, paraphrase, word-coinage and restructuring), cooperative strategies, and non-linguistic strategies (including mime, gesture and sound-imitation). Specific strategies under the third subtype were: waiting for the terms to appear, appealing to formal similarity, retrieval via semantic field, searching via other languages, retrieval from learning situation, and sensory procedure.

### 3.4 *Cognitive processes of L2 learning and production*

A major problem with research into cognitive process of L2 learning has been that the phenomena under discussion are not directly observable, and thus are empirically unverifiable. Ellis (1985a), after reviewing the research on learner strategies, concluded:

Peering into the 'black box' to identify the different learner strategies at work in SLA is rather like stumbling blindfold around a room to find a hidden object. (p.188)

Since access to the learner's cognitive processes during learning and production is extremely difficult, research in this area is mainly theoretical and indirect. Results of the theorising about the process involved in learning and production have been discussed in Chapter 2. Research into two aspects of cognitive process involved in L2 learning and production are reviewed here. They are: conversion of L2 input into intake, and the role of planning and monitoring in L2 production.

#### *i.) The process of converting input into intake*

There have been few empirical studies in this area. Studies reviewed here concerned how L2 learners perceived the L2 data presented to them. Investigation employed measures of reaction time (Lehtonen and Sajavaara 1983), elicited imitation (Naiman 1974; Swain et al. 1974; Markman et al. 1975), partial dictation and list recall (e.g., Johansson 1973; Meara 1980; Henrichsen 1984), aural cloze (Henning et al. 1981; Chaudron 1985a), and aural comprehension (Chaudron 1983b), to determine the abilities of learners at different proficiency levels to imitate or recall the L2 data presented to them. Chaudron (1985b) summarised the general finding of these studies as showing that "less competent learners perform less well or process the aural input provided them in a rote fashion, failing to process the syntactic or semantic forms" (p.11).

## *ii) The role of planning and monitoring during L2 production*

The few studies of the cognitive processes of L2 production have been concerned with the role of planning and monitoring during L2 production.

In fact, Ellis's (1987) study was the only one found that dealt with the role of planning during L2 production. Aimed at investigating how amount of planning time affected the accuracy of L2 production, the study examined the accuracy of three past tense morphemes, viz. regular past, irregular past, and past copula, in the narratives produced by 17 learners of English under three conditions. They were: planned writing, planned speech, and unplanned speech. The findings generally suggested that the learners' use of the investigated morphemes was more accurate in the two planned conditions than in the only unplanned condition, though the nature of the linguistic features might also determine the accuracy order.

Studies of the role of monitoring in L2 production were of two types: classification of the types of monitoring, and empirical investigation of the role of monitoring in actual L2 production.

Morrison and Low (1983) distinguished two types of monitoring in speech production. One was pre-articulatory monitoring and the other post-articulatory monitoring. The former type would result in hesitant speech, while the latter would cause learners to edit excessively their own production. The results of editing would be the production behaviours such as false starts and self-correction.

Hulstijn and Hulstijin (1984) investigated the role of monitoring in adult learners' oral Dutch production. The learners were first required to retell narratives, of about four sentences in length, presented to them in written form. The subjects were directed to focus on informational accuracy in this first retelling. It was found that the subjects could do what they were required to do. Subjects were then asked to focus on the grammatical correctness of their responses. The results showed a significant increase in the percentage of correct uses of two Dutch word-order rules.

### *3.5 L2 learning outcomes*

L2 learning outcomes have been investigated in terms of two types of learner performance. One has been L2 learners' judgments of the grammatical correctness of certain samples of the target language. The other has been learners' actual L2 production, both in written and spoken forms. Studies that examined the two types of L2 learner performance are reviewed here.

*i) L2 learners' internal representation of grammatical rules of target language*

As discussed in Chapter 2, L2 learning was conceptualised in theories with a cognitive focus, as a process of developing an internal representation of the L2 knowledge system (i.e., declarative knowledge) and a retrieval system with which L2 learners could get access to the knowledge system (i.e., procedural knowledge). Since this internal representation could not be investigated directly, researchers had to rely on the L2 learners' intuition of grammaticality. The assumption was that "a sentence which is judged to be grammatical is in agreement with the learner's interlanguage grammar... and that the evolution of learners' intuitions largely reflects the development of interlanguage knowledge" (Sorace 1985: 240).

Generally, grammaticality judgment tests might require learners to perform one or more of the following tasks:

- discriminate between well-formed and deviant sentences,
- identify the errors in deviant sentences,
- correct the errors identified, and
- state the grammatical rules broken in deviant sentences.

The above tasks elicit metalinguistic responses of different nature.

The first task elicits a response that is possibly related to the learner's *unanalysed* (Bialystok 1982) knowledge of L2, and requires only the learner's ability to distinguish well-formed sentences from deviant sentences.

To be able to identify the error in a deviant sentence, however, the learner is required to perform by means of *analysed* (Bialystok 1982) L2 knowledge, possibly without access to the terminology required for the description of this knowledge.

The learner's ability to correct errors in the deviant sentences presupposes first, the ability not only to recognise the deviant sentences, but also to make his/her own linguistic production, and second, the analysed L2 knowledge. Nevertheless, the learner might not be able to verbalise this knowledge.

Finally, the task of stating the grammatical rules requires that the learner should possess the ability to perform the previous three tasks. In addition, the learner should possess analysed L2 knowledge which he/she can describe in words.

Chaudron (1983c) conducted an exhaustive review of the empirical research of metalinguistic judgments of native speakers and non-native speakers, which included 22 studies of L2 learners' metalinguistic judgments. The studies reviewed were conducted between the 1960s and early 1980s. Tests of L2 learners' metalinguistic judgments varied considerably in the following respects. They were: linguistic materials selected for judgment, the way in which the test items were designed and

presented, and the procedures by which the tests were administered.

The linguistic materials were mainly from two sources. The first was data collected in previous SLA studies, or certain L2 linguistic features that L2 learners tend to produce incorrectly. The second was L2 learners' own errors in the target language. Variables involved in the design and presentation of test items were: order of presentation, distractor items, medium of presentation, linguistic complexity, and contextualisation. The tests differed procedurally in terms of the nature of response requested, time allowed to give response, and initial training to get familiarised with test requirements.

According to Chaudron (1983c), the major results of studies on metalinguistic judgment can be summarised as follows. First, there was great inter-learner variance in learners' metalinguistic judgments, which suggested that "metalinguistic judgments appear to be derived from linguistic development and experiences in very idiosyncratic ways" (p.370). Second, the learners' abilities to judge according to the norms set by experimenters improved as their target language proficiency was enhanced. Third, different test conditions might result in test performance variance. Fourth, learners' metalinguistic judgments tended to be validated by other measures of their own performance.

More recently, a number of studies have focused on the comparison between learners' performance on metalinguistic judgment tasks and other types of production task. As mentioned above, Chaudron concluded that learners' metalinguistic judgments tended to be validated by other measures of their performance. Arthur (1980) shared this opinion. But Gass (1983) contended that learners at different proficiency levels often showed inconsistency between what they did in the metalinguistic judgment tests and what they did during oral production. Sorace (1985) found that those non-beginning learners of Italian who scored high in a judgment test also performed better in picture description task in terms of syntactic index. But this was not the case for beginners. Different types of behaviour, in the performance of metalinguistic judgment tasks and other types of production tasks, were also found in studies by Liceras (1983) and Ellis and Rathbone (1987). These studies suggested that for beginners, judging grammaticality of structure was a different behaviour from producing the structure. As learners' proficiency improved, the association between judgment and production might become closer.

## *ii) L2 development in terms of "function-form" relationships*

At the time of reviewing relevant literature, a study could not be found that dealt with classroom L2 development using a "function-form" approach. All studies of

this type were conducted in the naturalistic setting. Some of them dealt with child L2 learners (Hakuta 1975; Olshtain 1979) and so they are not reviewed here. Only studies dealing with adult learners are discussed.

Huebner (1983) investigated the oral English development of an adult Hmong learner in a naturalistic setting. Seventeen one-hour recordings of conversations between the subject and the researcher were made during a 13-month period. In these sessions, the tasks, interlocutor, and context were held constant. The findings with respect to the development of article use are reviewed here because they have received the most attention. In analysing his subject's article system, Huebner used Bickerton's (1981) semantic wheel for noun phrase reference, which distinguished between +/- specific referent, and +/- assumed known to the hearer. Thus, the semantic meanings of noun phrases fell into one of the four possible combinations of the above two binary features.

Four rough stages were distinguished in the subject's development of article use. Initially the article *da* (i.e., the) was used primarily with noun phrases which were specific and assumed known to the hearer, except when the noun phrase functioned as a topic. Huebner (1985) speculated that a topic was not marked because at that time

topics were unambiguously marked by means of word order, a topic-comment boundary marker *isa*, and 0 anaphora, marking topic noun phrases with *da* would constitute a redundancy. (p.148)

The second stage (within six weeks) was characterised by the non-discriminating use of *da* with all types of noun phrases. This was accompanied by the replacement of presupposed-asserted word order by SVO word order and the decline in use of the topic-comment boundary marker. In the third stage (around week 21), *da* began to drop out in all "-specific referent, -assumed known to the hearer" environments. Finally, in stage four (around week 27), *da* was no longer used in "+ specific referent, -assumed known to the hearer" environments. From this time on till the end of the study, *da* had been used like the English *the*. Huebner (1985) also reported a follow-up study which was conducted twenty months after his 1983 research. The new data showed that the article *a* was used with only singular count nouns with the semantic meaning of "+ specific referent, - assumed known to the hearer", while the plural count nouns of this type were marked by 0 article. In addition, it was also found that the most continuous topics in the discourse were least marked.

There were a number of studies of L2 learners' abilities to handle the target temporal systems in a single discourse mode - narrative. The subjects were all adult L2 learners in a naturalistic setting.

Von Stutterheim and Klein (1987) claimed that conceptual categories such as

temporality could influence in three ways L2 learners' choice of a specific L2 form at a particular stage of the learning process. The first was "the degree to which a particular temporal category can be conveyed implicitly" (p.197). For example, the distinction between background and foreground in discourse needed to be represented explicitly. The second was the L2 learner's first language. As an example they cited some Turkish learners of German who used German forms corresponding to Turkish categories to express the ideas of being "near past" and "remote past", which were distinguished only by the Turkish verb system. The third was "the need to express *complex* temporal structures in discourse." (p.197) For example, different L2 forms might be required to express "the initial reference point, the relation 'following-in-time', and the end point" (p.198) of the temporal structures in discourse.

Von Stutterheim and Klein also distinguished between two pragmatic devices to indicate temporal reference in discourse. The first was "discourse organisation principles" (or DOP), which were "all those strategies which make use of a particular *order of elements* in discourse" (p.198). The most important principle they concluded was the so-called "principle of chronological order", which was regarded as the basic means by which the beginning L2 learners or an "early fossilised L2 speaker" (p.198) established temporal relations between utterances. They also claimed that as learners' proficiency improved, this "principle of chronological order" would become only one of several possible pragmatic devices for these more advanced learners.

The second device was called "implicit reference", which was further divided into "inherent temporal reference" and "associative temporal reference". The former meant "those cases where the temporal properties can be inferred from the specific semantics of a verb or noun group, without being explicitly established" (p.201). The latter referred to the cases where the temporal reference could only be inferred from the shared knowledge between speaker and listener. Both types of temporal reference were said to be "an indispensable means for reporting a series of events" for low-level learners, but for the advanced learners, the application of both types "has become almost a question of style" (p.201).

Adopting a similar approach to that of von Stutterheim and Klein, Meisel (1987) was able to describe how a Spanish learner of German, in a period of 80 weeks, developed his ability to indicate a past event. It was found that the learner had to resort to pragmatic devices in the earliest stage when verbal elements were either omitted altogether or unsystematically marked. The pragmatic devices of indicating past events were: first, scaffolded discourse, in which the interlocutor helped to provide alternative reference points; second, implicit reference, which was similar to von Stutterheim and Klein's "associative temporal reference"; third, the contrasting



of two or more events; and fourth, an order of mention following natural order, which was also similar to von Stutterheim and Klein's "principle of chronological order". The use of explicit linguistic order to express a past event followed the order of adverbial + connective - verbal inflection, which, in turn, followed the order of present perfect - past tense on verbs - past tense on modals - plural inflection. In terms of the functions expressed, in the earliest stage, the learner was only able to refer to an individual event. Only after more exposure to the target language was he able to relate events in the past and to express background information.

Kumpf (1984), Trevisse (1987) and Veronique (1987) all examined devices which the learners used when expressing two important concepts often adopted (e.g. Weinrich 1973; Givon 1982; cited in Trevisse 1987) in the discussion of the structure of the narrative, viz. "foreground" and "background". According to Kumpf (1984), "foreground" referred to "the line of event clauses" (p.133) and "background" consisted of "clauses which elaborate on the event line" (p.133). In her study of a Japanese learning English, she found that base-forms of verbs, i.e., verbs not marked with tense, were exclusively used to express completed actions in the foreground. In the background, however, most of verb forms were marked for tense. Also, in the background, almost all stative verbs were tensed, and active verbs were marked for habitual and continuous aspects.

Similar results were reported by Trevisse in her study of a Spanish learner of French. The learner primarily used active verbs in various aspectual forms to express the "story line" (or foreground) of the narrative. When expressing "commentary" (or background), the learner used both stative and active verbs marked for tense and aspect. Atemporal forms were also used in the background.

Veronique also discovered that his Arabic and Berber learners of French at varying levels of proficiency used different verb forms to express foregrounded and backgrounded information, though learners at different proficiency levels used different types of verb forms. Low-level learners tended to use verb stems in the foreground, and V+ e forms in the background. But intermediate-level learners tended to use V+ e forms (some also used verb stems) in the foreground, and both V+ e forms and verb stems in the background. In addition to the morphological forms, Veronique examined other devices, both pragmatic and linguistic, which the learners used when referring to past events. He found that the learners used "partially similar devices" (p.267). He then went on to summarise that these devices were:

Reliance on the discursive principle: first happened, first mentioned  
 Reliance on shared knowledge of the world and asyndetic relations between clauses  
 Use of calendrical expressions and spatial reference  
 Use of indexical and anaphoric adverbials... (p.267)

The "function-form" approach has also been used by some researchers to analyse the data which were unaccounted for by other approaches. Tarone and Parrish (1988) adopted this approach to reanalyse L2 learners' article use in three different tasks, i.e., a written grammaticality judgement test, an oral narration task and an oral interview with a native speaker (Tarone, 1985), which was difficult to be explained by the "Labovian" approach (See Appendix 1, pp.245-247). They found that the constraints of discourse function (e.g., cohesion in text), and communicative function (e.g., pressure to be clear) were the major influences on the high accurate use of the noun phrases which expressed the idea of "+ specific referent, + assumed known to the hearer" and low accurate use of "+ specific referent, - assumed known to the hearer" noun phrases in narrative. Similarly, Schachter (1986) re-examined the data from Cazden et al. (1975) study, which had revealed difficulty in explaining the free variability that occurred in the interlanguage of Jorge, an adolescent L2 learner of English. The form under investigation was negative. Jorge had used four forms to express negation, viz. no V, don't V, aux-neg, and analysed don't. Using "function-form" approach, Schachter was able to identify two stages in Jorge's use of forms to express negation. In the first stage, the forms used by Jorge were simple, and the development was slow, but in the second stage, more complex forms were used, and the development was rapid. The occurrence of the forms was found to be determined by the functions to be expressed. For example, "I don't know" and no+V appeared at the same time, but they were not in free variation. "I don't know" expressed No Information, while No+V expressed Denial. No+N and don't V also occurred at the same time, but No+N always expressed Nonexistence, while don't V never did.

### 3.6 Summary and conclusion

This chapter has reviewed the relevant research literature with reference to each of four aspects of L2 learning, viz. learning environment, individual characteristics, cognitive process, and learning outcomes.

Studies in reference to the L2 learning environment which have been reviewed were those that were conducted in L2 classrooms. However, most of the L2 classrooms in which the studies were conducted belonged in the so-called *mixed* L2 classroom (See p.2 for its definition). Few of the studies were conducted in foreign language classrooms. The general aspects of classroom teaching and learning on which these studies focused were: characteristics of teacher talk, L2 learner behaviours, teacher-learner and learner-learner interactions, and effects of language instruction on L2 learning. Typologically, the studies could be divided into descriptive studies and experimental studies. The descriptive studies concentrated on the classification and categorisation of various teaching and learning activities in L2

classrooms. The results of these studies showed that teaching and learning activities in L2 classrooms could be subject to the influences of various factors relating to learning contexts and individual differences of teachers and L2 learners. The experimental research either compared teaching, learning or interaction involving different types of learners under different learning contexts or provided treatment to test hypotheses. The results of this type of research were not conclusive, due to the influences of the similar sorts of factors that affected the descriptive studies, and to the defects of research design.

The studies of individual learner characteristics reviewed in this chapter were those on the role of motivation, attitude, and strategies adopted by L2 learners during learning and production (i.e. learning strategy and communication strategy). The concept of motivation was further refined as integrative and instrumental motivations. However, the findings were inconclusive as to whether integrative motivation was more effective than instrumental motivation in promoting L2 learning because of definitional ambiguities of the constructs and differences in learning contexts. Two types of attitude were examined in the literature, viz. attitude toward speakers of the target language, and attitude toward the learning environment. The findings were again not conclusive as to whether attitude was positively related to L2 proficiency because of the different learning contexts in which the research was conducted. Relationships between some individual characteristics were also considered in the empirical studies. Gardner (1979) regarded attitude as the factor that affected motivation, which in turn influenced L2 learning. Biggs (1987a, 1988) linked motivation of learning with learning strategy, though not specifically in relation to L2 learning. Studies on learning strategies did not provide much insight into how learning strategies affected L2 learning, because much of the research has been on the categorisation and classification of strategies. Also, few significant relationships have been found between learning strategies and L2 proficiency. In addition, the research methodology was doubtful, its reliability and validity having been questioned. Studies on communicative strategies did not show how the adoption of such strategies would affect L2 learning. Much of the research was concerned with the classification and categorisation of various communication strategies.

Two types of research into cognitive processes of L2 learning and production were reviewed. One probed into the hypothetical process of L2 learners went through to assimilate the target data to which they were exposed, and the other examined the role of planning and monitoring in the process of L2 production. Both types of research were few in number. The former type was concerned only with the first stage of conversion of input into intake. How this affected subsequent L2 learning was not known. The findings of the latter type showed that planning and

monitoring might enhance the accuracy of linguistic and informational aspects of L2 production. Classification of types of monitoring was also incorporated in this type of research.

Studies related to L2 learning outcomes dealt with two types. One was L2 learners' internal representation of the target language rules, and the other was L2 learners' actual linguistic production. The former type was examined via the learners' performance of metalinguistic judgment tests. The latter type was investigated by the "function-form" approach. The results of the learners' metalinguistic judgment tests showed that the learners' performances were also subject to the influences of various factors such as learning experience, target language proficiency, and test conditions. The findings also showed, though not conclusively, that as the learners' target language proficiency improved, their performance of metalinguistic judgment tests became more consistent with their own actual linguistic production. The few studies that examined the "function-form" relationship in L2 learners' interlanguage system were conducted exclusively on learners in a naturalistic setting. The functions and linguistic forms investigated were varied, and the findings generally suggested that at the beginning stage of L2 learning, learners tended to use pragmatic devices or limited linguistic forms to express the functions they intended. However, as their target language proficiency improved, they relied more on linguistic devices, and more linguistic features might be used to express a certain function until at last the "function-form" relationship became fixed. In addition, the "function-form" approach to interlanguage has been found to be capable of revealing the interlanguage systematicity which other approaches could not reveal.

The major strengths of the research literature lay in the three following respects. First, it provided for concepts which were relevant to the following factors to be investigated in this study, viz. formal English classes, motivation, attitude, and oral English production. More particularly, the literature has shown that the teacher talk during language instruction, learner behaviours, and classroom interactions were the three important aspects of the L2 class investigated in the studies. Regarding the concept of motivation, the literature distinguished between integrative and instrumental motivation for learning a second language. Distinction was also made between the more specific psychological goals for studying an academic subject (i.e., surface, deep and achieving motives). Similarly, the concept of attitude was further specified in the literature. At least two types of attitude received special attention in the literature reviewed, viz. attitude toward native speakers of a target language and attitude toward the learning environment. The literature has also indicated that the basis for L2 learner's linguistic production was his/her internal representation of the target language rules, and that monitoring plays an important role in actual oral production. Thus, the learners' internal representation of target language rules and

their monitoring of oral production should also be considered during investigation of oral English.

Second, the literature further specified relationships between some factors to be investigated in this study. More specifically, the relationship between attitude and motivation, as in Gardner (1979), and that between motivation and learning strategy, as in Biggs (1987a, 1988) were described. The relationships between the four general aspects of L2 learning, described in Chapter 2, did not specify how these three factors were related to each other.

Third, some research methods of possible use to this study were provided, e.g., classroom observation methods, method for assessing learners' internal representations of the target language rules.

Major weaknesses of the research literature lay in the following two respects. First, few empirical studies had been conducted in the foreign language classroom setting. Second, the majority of research findings were inconclusive, due to various conditions related to learning contexts, production contexts, individual differences of the subjects, and research design. Because of the difference in learning context, and the inconclusiveness of the research findings, nothing definite was known, from the literature reviewed in this chapter, about the key research questions which attempted to describe the same aspects of L2 learning as those examined in the literature (i.e., Key Questions 2 to 5).

## **Chapter 4 A Conceptual Framework: Relationships between Factors To Be Investigated in the Study**

### **4.1. *Prior considerations***

To this point, the relationships between the four aspects of L2 learning in which the factors to be investigated in the study belonged have been established (p.20). In addition, a review of the related research literature helped identify concepts relevant to the following: English classes, motivation, attitude and oral English production. The review also further specified the relationships between attitude, motivation and learning strategy. These to a large extent have paved the way for establishing a conceptual framework which specifies how the factors (with the related concepts) are interrelated. Such a framework would also enable a specification of sub-questions for research, of significant variables, and of relationships to be explored.

However, as indicated in Chapter 3, little research into classroom L2 learning has been conducted in a foreign language classroom. Therefore, in order to establish a conceptual framework, which describes how oral English would develop in the Chinese context, reliance on theories of L2 learning and related research literature would not be adequate. An examination of how English was usually taught and learned in China was necessary.

Since the learners' oral English development would be investigated in terms of "function-form" relationships, the "functions" to be examined have to be determined as well. But as Tarone (1988) pointed out, in her criticism of the "function-form" approach to interlanguage variability, one of the problems of this approach was the "confused and undeveloped use of the central term 'function'." (p 56) Tarone did not elaborate on this criticism, but seemed to refer to the possibility that this term could be used by different researchers to mean different things. To avoid the terminological confusion in the discussion of "function-form" relationship development in the learning context of the present study, it was necessary first to clarify the concept of "function" before the decision on what "functions" to be examined.

In this chapter, how English is usually taught and learned in Foreign Languages Department of Fujian Teachers University in China will first be described. The description will be based on the author's five-year experience as a teacher of English in the same department. Then, the concept of "function" used in this study will be discussed. Finally, the relationships between the factors to be investigated in the

present study will be specified. The bases for such a specification are: (i) the relationships between the four aspects of L2 learning in which the factors to be investigated belonged, (ii) concepts and variables relevant to some of the factors to be investigated, and the relationships between some of them, identified from the related research literature, and (iii) the description of how English is taught in the particular foreign language classroom in China considered in this study. The relationship thus specified would form the basis for the conceptual framework for the study. Following the establishment of this conceptual framework, specification of sub-questions for research, of the variables to be investigated, and of relationships to be explored, will be set out.

#### 4.2 Characteristics of English learning in Foreign Languages Department of Fujian Teachers University

In terms of learning environment, English learning in this particular institution has the following characteristics:

Since English in China is not used in daily communication, nor is it used as an official language, the social milieu provides few opportunities for learners to be exposed to English.

Learners get almost all their exposure to English in the classroom. Teaching is characterised by teacher-centred instruction, and learning involves the development of the four basic skills, viz. listening, reading, speaking, and writing, through different types of guided exercises. Thus the classroom is the most important factor in students' development of English proficiency.

Opportunities for practising English in the classroom are varied. There is simple and repetitious production such as oral pattern drills and reading texts aloud. There are also more demanding tasks such as answering the teachers' questions, translation, free talk, and composition writing. As well there are exercises which combine different skills, such as dictation (listening comprehension+writing) and story retelling (reading comprehension+speaking). Despite this variety, production as a whole is characterised by its general absence of informational exchange between teachers and learners. In other words, learners have very few opportunities in the classroom to use English in the kind of communication in which there is an information gap between the speaker and the listener.

The classroom English to which the learners are exposed is mainly derived from textbooks, teachers' instructions, including those of some teachers who are native speakers of English, and the materials selected by teachers. In addition, students occasionally engage in conversations with teachers from English-speaking countries. The teachers' instructions usually concentrate on explaining the content of texts, the

meaning of lexical items, phrases and idiomatic expressions, and grammatical rules.

It is difficult to describe objectively the individual characteristics of the learners in terms of their attitudes and motives for learning English. No previous research in this area has been conducted in this particular institution. Therefore, the following description essentially reflects observations of the author.

Learners enrolled in the Foreign Languages Department of Fujian Teachers University are usually those who apply to major in English after their graduation from senior high school. Therefore, it is assumed that they have a positive attitude toward learning English and the desire to learn it well. Their attitudes and motives may be influenced by their learning experiences in this particular institution.

The types of strategies which the learners usually adopt in the process of learning the English, and how they behave in the process of orally producing English, are not clear. It appears that most of the learners are interested in finding out the shades of difference between lexical items and using their grammatical knowledge to analyse the difficulties encountered in the learning process. It is assumed that the learners adopt problem-solving strategies in the process of learning. Oral production of English is characterised by its lack of fluency.

Learning outcomes are generally measured by two types of tests. The first type are written tests. These aim at measuring how well the learners grasp the content taught in each of the courses offered. Generally speaking, this type of test taps the learners' knowledge of the target language. The second type are oral tests. The learners are usually required to retell the contents of certain texts they have been taught during the semester, or to talk on a topic designated by the teacher. There is no objective marking system for the oral tests. The impression of the teacher determines the mark.

To summarise, learners have few opportunities to be exposed to English once they are out of the classroom. Instruction in the knowledge of English dominates and the learners have few opportunities to engage in genuine social communication. The learners' attitudes and motives for learning English can be influenced by the learning environment. Whilst the learners appear to adopt problem-solving type of strategies in the process of instruction, the strategies they adopt during oral production are not clear. Learning outcomes are measured by both written and oral tests. In the written tests, it is the knowledge of the target language that is stressed. However, it seems that no objective criteria are used to measure the learners' oral English.

#### 4.3 Concept of "function"

Pfaff (1987), in a discussion of the functionalist approach in linguistics,



distinguished four types of function: social function, pragmatic function, discourse function, and case function.

Pfaff did not define the concept of "social function", perhaps because the meaning of the term was self-evident. Instead, two functional aspects to "the alternation among varieties in the verbal repertoire of a community" (p.82) were discussed. One aspect is the appropriateness of the function in the social domain "to identify the speaker's social status, role or attitudes vis-a-vis the hearer and topic" (p.82). The other is the comparativity of linguistic devices with their social functions and the speaker's communicative intentions.

The term "pragmatic function" was defined as "functions such as assertion, denial, question, command, etc. ..." (p.82). According to Pfaff, this term has often been applied to conversational analysis, "which is concerned with how speakers 'do' these and other routines such as openings, closings, turn-taking and repair in face-to-face interaction" (p.82).

Pfaff pointed out that usually the term "discourse function" referred to "notions like topicality, focus and cohesion in text" (p.83). However, some other different uses of the term also received attention. One of them was the use by a researcher of "topic" vs. "comment" as equivalents of "theme" vs. "rheme" in functional sentence perspective (Firbas, 1966, cited in Pfaff). Thus the distinction between "topic" and "comment" was the one of "given, old, or background information vs. new information or information deemed by speaker to be difficult for the hearer to identify at the time of utterance ..." (p.83).

Case function was regarded as the relationship between the surface grammatical function on the one hand and the semantic and/or discourse functions it could assume on the other, e.g., the grammatical functions "subject" and "object" and their semantic functions "agent", "recipient", "goal", "instrument", etc., (p.84) the grammatical functions "subject" and "object" and their respective discourse functions of "background" and "new information" (p.84).

The above definitions of Pfaff are common to human language as a whole. However, learning how to express these functions in a second language may be determined by L2 learning contexts. Different learning environments may differentially encourage the learning of the devices to express certain type(s) of function. If this is correct, then it can be assumed that the functions expressed in the L2 production of the learners in a learning environment such as Fujian Teachers University would generally be discourse and case functions for two reasons. First, as previously explained, the learners have few opportunities to participate in genuine social communication both inside and outside the classroom. So the learning of

linguistic devices to express social and pragmatic functions are not encouraged. Second, in language instruction, knowledge of the target language is stressed. Also, informational and linguistic accuracy are emphasised. Therefore, the learning environment would generally encourage learners to develop an ability to express discourse and case functions while neglecting social and pragmatic functions.

Thus, the functions to be examined in the present study would be discourse function and case function. Pfaff's definitions of these two functions, stated above, were adopted.

#### 4.4 Relationship between the factors to be investigated in the study - a conceptual framework

To this point, the three bases which were regarded as necessary for establishing a relationship between the factors to be investigated in this study have been discussed. They were:

- the relationships between the four aspects of L2 learning in which the factors to be investigated belonged (2.2 iii, p.20),
- concepts relevant to some of the factors to be investigated, and the relationships between some of them, identified from the related research literature (See 3.6 for details, pp.56-57), and
- the description of how English was taught in the particular foreign language classroom in China considered in this study (See 4.2, pp.59-60).

Given the fact that the factors to be investigated in this study covered all four aspects of L2 learning, viz. learning environment, individual characteristics, cognitive processes, and learning outcomes, the relationships between them actually should describe the whole process of L2 learning in a particular learning context. In other words, such relationships should describe how L2 learning outcomes would be affected by learner-external and learner-internal factors. Since L2 learning outcomes were to be investigated in terms of "function-form" relationships within a certain period, the problem of how an L2 learner generally would develop the ability to express a function (or concept) in the target language will first be discussed.

There seem to be two prerequisites for an ability to express a concept. The first is that the learner must "possess" the concept he/she wants to express. The second is the possession of specific conventionalised devices to express the concept. Since the learners in this study were adults, these two prerequisites need to be examined from the perspective of an adult L2 learner.

Ways in which an adult L2 learner learns to use the target language to express a concept has been discussed in von Stutterheim and Klein (1987) and Trevisi (1987).

Von Stutterheim and Klein stated that

a second language learner - in contrast to a child acquiring his first language - does not have to acquire the underlying concepts. What he has to acquire is a specific way and specific means of expressing them. (p.194)

Trevisse was more specific. She claimed that,

(A)dults acquiring a second language are cognitively developed; i.e., they have, for instance, a full grasp of notional time: what they are acquiring is a 'new' network of markers, which have to be related to notional time. (p.226)

On the basis of the above claims, it was assumed that the learners in this study had possessed the concepts which they wanted to express. Their task was to learn a different linguistic system to express the concepts. Therefore, the development of "function-form" relationship, as revealed through the adult learners' oral target language production, could be conceptualised as the development of the learners' oral linguistic ability to express the concepts they have already acquired.

How, then, would this oral linguistic ability develop in the foreign language classroom: the particular learning environment considered in this study? As mentioned in 4.2 above, learners in such an environment were exposed to the target language almost exclusively from classroom language instruction. They had few opportunities to take part in social communications with native-speakers of the target language. Therefore, before they could express themselves orally, they would first have to learn the "facts" of the target language, "facts" such as pronunciations, vocabulary, and grammar. The result of this learning would be the learners' underlying knowledge of the target language (cf., declarative stage in information-processing approach to second language learning, p.12). This body of knowledge, in turn, would be drawn upon when the learners attempted to express themselves orally in the target language. Frequent oral target language practice would gradually enable the learners to gain more automatic access to their internal representations of the target language rules, and the establishment of an automatic process would also result in the continual restructuring of the internal presentations of the knowledge about the target language (cf. procedural stage in information-processing approach to second language learning, p.12). In other words, two stages could be distinguished in the process of developing oral linguistic ability in the foreign language classroom setting. In the first stage, knowledge of the target language has to be learnt through teachers' instruction (or teacher talk), the result of which would be an internal representation of the knowledge about the target language. In the second stage, the internal representation of the knowledge about the target language is used in oral production. Frequent oral practice will enable development of automaticity with

which the internal representation can be accessed. The internal representation will also undergo indefinite restructuring as more learning and practice occurs.

Relationships between the learner-external and learner-internal factors, together with their relevant concepts identified in the review of the related research literature (See pp.56-57 for details), and oral English development in the two stages could then further be specified. The bases for the specification have been stated 4.1 above. The results are diagrammatically presented on p.65.

In the first stage, the learners are exposed to English through classroom instruction. The learners' experiences of English learning would form their attitude toward the classroom learning environment. The learners' classroom learning experiences would also affect their initial attitude in relation to English learning. As was indicated in 3.3 (i) (p.43), attitude toward the native speakers of target language had been the focus of research in individual characteristics of L2 learners. But in the learning environment considered in this study (i.e., the foreign language classroom setting), the learners generally have very little contact with the native speakers of the target language. Therefore, a more important aspect of their attitude in relation to English learning would be their interest in the English language itself. The learners' attitude in relation to English learning and their attitude toward the classroom learning environment could in turn influence their motivation for learning English (See p.43 for Gardner's (1979) view that attitude affected motivation for learning an L2). Based on the research into motivation reviewed in 3.3 (i) (pp.41-42), the following types of motivation were distinguished: integrative, instrumental (Gardner and Lambert, 1959), surface, deep and achieving (Biggs, 1988). The learners' attitude in relation to English learning, their attitude toward the classroom learning environment, and the levels of their motivations for learning English, would determine the extent of English attended to by the learners in the process of learning. In the foreign language classroom setting, the motivations for learning a target language would also determine the amount of time they spend on out-of-class learning activities, both oral and non-oral. How the learners process the target language features which they attended to would depend on an individual's learning strategies, or "the techniques or devices which a learner may use to acquire knowledge" (Rubin, 1975: 43). The nature of the strategies is assumed to be associated with the learners' levels of surface, deep and achieving motives (See pp.42-43 for Biggs' (1988) discussion of the relationship between motive and learning strategy). The result of learning in this stage would be the learners' internal representations of their knowledge of the English language.

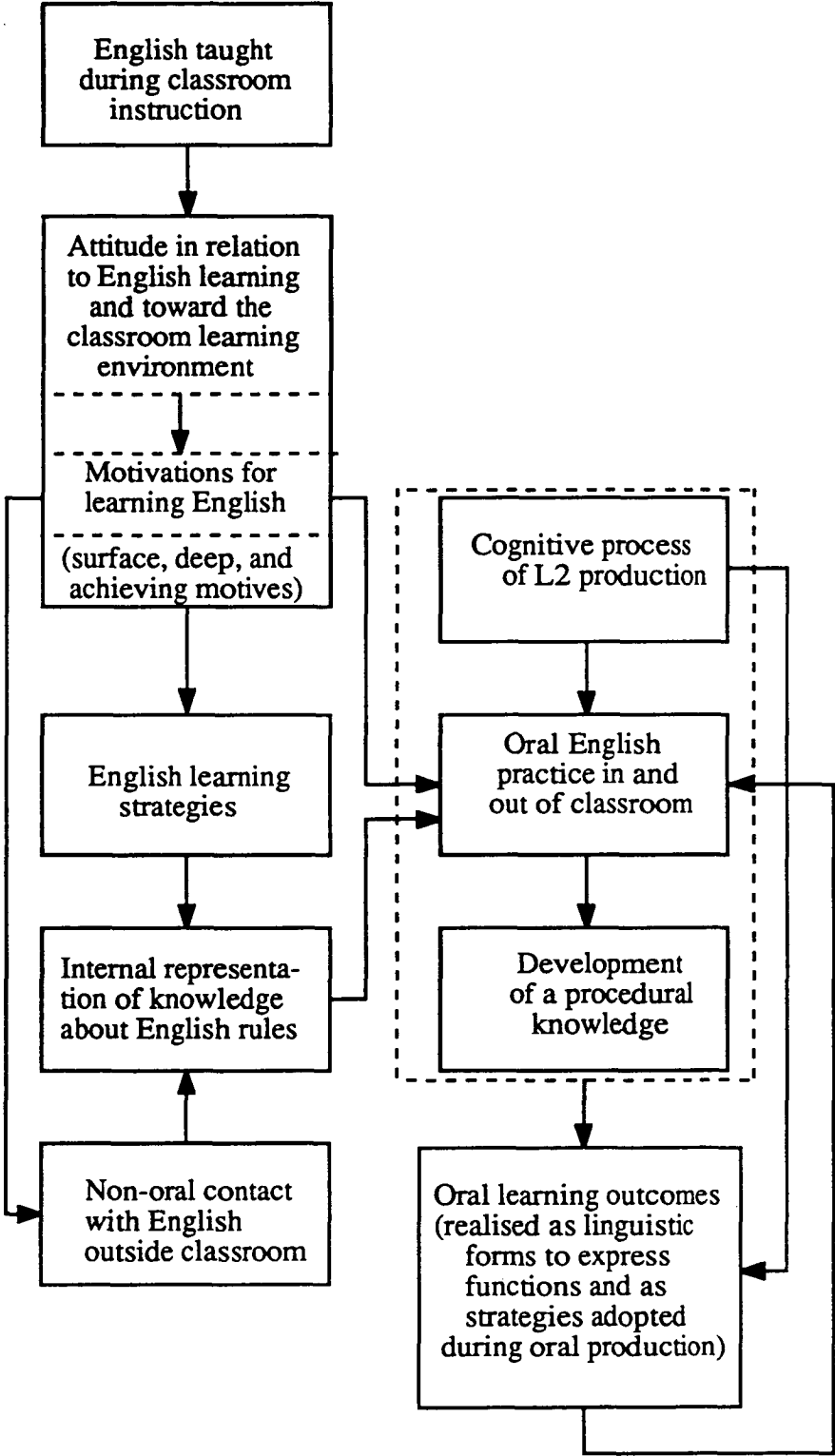


Figure 2 A Conceptual Framework of Oral English Development in the Foreign Language Classroom Setting

In the second stage, the learners attempt to express themselves orally by making

use of their knowledge of the English language. Oral use of English may take place both in and out of the classroom. Within the classroom, the learners may be given opportunities by the teachers to practise English orally. Oral English practice may also be in the form of learner-teacher or learner-learner interaction. Out-of-class oral practice may be in the form of interactions between the learners, or the conversations between the learners and native-speakers of English, the possibility of the latter being very small in the context under consideration here. In the process of oral English production, the learners are constrained by cognitive processes typical of L2 production such as monitoring. The result of cognitive process would be the adoption of strategies to deal with the errors of their own production and to cope with the insufficiency of their English knowledge. The result of oral practice would be a procedural knowledge, the development of which would enable the learners not only to get more and more automatic access to, but also to restructure, their internal representations of knowledge of the English language. The learners' oral learning outcomes, which are realised as the linguistic forms to express functions (i.e., concepts) and as the strategies adopted during the oral production, are the results of the learners' oral practice both in and out of classroom and the development of the procedural knowledge. Naturally, the oral learning outcomes are also constrained by the cognitive process in oral production. The learners' self-assessment of the oral learning outcomes would affect their subsequent English oral practice.

It should be noted that the distinction between the two stages in the development of oral English ability in the foreign language classroom setting is not made in absolute terms. In other words, the learners are not assumed to learn everything about English before they begin to apply the knowledge in oral production. The process of development is seen as consisting of numerous "learning-oral practising" cycles. But learning of the "knowledge" would always take place before the development of the ability to apply this knowledge learned in oral production. Therefore, the gap between the learners' knowledge of the target language and their ability to use such knowledge in oral production may exist for a long time.

#### 4.5 Sub-questions for research, variables for investigation, and relationships to be explored

The above conceptual framework has described in detail the possible relationships between the factors (with the related concepts) to be investigated in the study. Thus it answered Key Question 1, i.e., "How might learner-external factors, learner-internal factors, and the learners' oral English development be interrelated in the foreign language classroom setting?". At the same time, it also provided the basis on which Key Questions 2 to 6 could be addressed. There were two reasons for such a claim.

First, as stated in 1.3 (pp.6-7), Key Questions 2 to 5 dealt with the description of the investigated learner-external and learner-internal factors, their possible changes

over time, and the learners' oral English production in terms of "function-form" relationships, together with its development over time. The conceptual framework covered not only all these factors, but also the concepts related to these factors. Thus, it clarified the source of data in the sense that it provided the basis on which Key Questions 2 to 5 could be further specified.

Second, since the conceptual framework described how the factors and their related concepts were possibly interrelated, it provided a guide to interpreting the results of empirical investigation into the factors and their related concepts. In other words, Key Question 6, which asked how the learner-external and learner-internal factors influenced the learners' oral English development in terms of "function-form" relationships, could be investigated by exploring the relationships described in the conceptual framework, using the answers to Key Questions 2 to 5.

**Sub-questions for research** Based on the factors and their related concepts identified in the conceptual framework, and the intention of the author to examine these variables for a certain period of time, Key Questions 2 to 5 could be restated as the following 11 sub-questions for research:

1. What types of knowledge of English are taught during teachers' instruction in the investigation period?
2. What types of practice in English are the learners required to do in English classes?
3. What types of interactions occur between teachers and learners during the English classes?
4. What types of out-of-class contact with English do the learners have in the investigation period? How much time do they usually spend on each type of contact?
5. What is the learners' attitude in relation to English learning? Does it undergo any changes over time?
6. What is the learners' attitude toward the classroom learning environment? Does it undergo any changes over time?
7. What are the learners' five types of motivation for learning English (i.e., integrative, instrumental, surface, deep, and achieving)? Do they undergo any changes over time?
8. What learning strategies do the learners employ? Do they undergo any changes over time?
9. What are the learners' internal representations of knowledge of the English language?
10. What are the linguistic forms employed by the learners to express the functions under examination? How might the development of the linguistic forms used be described?
11. What are the strategies the learners adopt during oral production in the investigation period? How might the development of the strategies adopted be described?

**Variables for investigation** Logically, the answers to the 11 sub-questions above lay in an empirical investigation of the factors contained in the questions. Therefore, these factors constituted the variables for investigation in the present study. A summary of these variables according to the general aspects of L2 learning in which they belonged is presented in Table 3.

| <p style="text-align: center;"><i>Table 3</i></p> <p style="text-align: center;"><i>Relevant Variables in Relation to Aspects of L2 Learning</i></p> |  |
|--|--|
| <i>Aspect of L2 learning</i>   | <i>Relevant Variable</i>   |
| Learning Context   | <ul style="list-style-type: none"> <li>- types of knowledge about English taught during the instruction</li> <li>- types of practice in English the learners were required to do during the classes</li> <li>- types of interactions between the teachers and the learners during the classes</li> <li>- types of contacts with English the learners had out of classroom</li> </ul> |
| Individual Characteristics   | <ul style="list-style-type: none"> <li>- the learners' attitude in relation English learning</li> <li>- the learners' attitude toward the classroom learning environment</li> <li>- the learners' five types of motivation for learning English</li> <li>- the learners' English learning strategies</li> <li>- strategies adopted during oral production</li> </ul>                 |
| Learning Outcomes  | <ul style="list-style-type: none"> <li>- the learners' internal representations of English knowledge</li> <li>- the linguistic forms the learners used when orally expressing the discourse and case functions under examination</li> </ul>  |

It should be noted that no variables were listed under the general aspect of cognitive process. There were two reasons for this. The first was that the behaviours that are cognitive in nature, such as learning strategies, and production strategies, had been subsumed under the general aspect of learner characteristics because of their various behavioural characteristics. The second was that investigation of the inner cognitive process (e.g., process of converting the input into intake, see 3.4.i, pp.47-48) was not practicable in the present study because, theoretically, it was not



clear how the process would contribute to formulation of the learners' internal representations of the target language system. Also, practically, it could not be carried out, given the scope of this study and the limits of resources for research.

**Relationships to be explored** As indicated on p.67, Key Question 6 can be investigated by exploring relationships between factors (and their related concepts) as delineated in the conceptual framework. These relationships can be stated as follows:

1. the learners' experiences of English learning in the classroom (including language instruction, practice in English and interactions with teachers) vs. their attitude in relation to English learning and the classroom learning environment,
2. the learners' attitude in relation to English learning vs. their five types of motivation for learning English,
3. the learners' attitude toward the classroom learning environment vs. their five types of motivation for learning English,
4. the learners' five types of motivation for learning English vs. their overall participation in out-of-class contact with English,
5. the learners' surface, deep and achieving motives for learning English vs. the learning strategies adopted,
6. the learners' learning strategies vs. their internal representations of knowledge of the English language,
7. the learners' oral practice in and out of classroom vs. development of control over oral production,
8. functions under examination vs. linguistic forms and strategies adopted during oral production, and
9. the learners' learning outcomes vs. subsequent oral English practice.

Possible answers to the exploration of these nine relationships, which amount to the possible answers to Key Question 6, can then be found on the basis of the empirical investigation into the variables for this study. In other words, answers to the eleven sub-questions will be used to interpret the nine relationships. The results of interpretation will be the answers to Key Question 6.

## Chapter 5 Research Design, Instrumentation, Data Collection, and Data Analysis

In the previous chapter, the variables (See Table 3, p.68) to be investigated empirically in this study were determined on the basis of the 11 sub-questions, which, in turn, were based on the conceptual framework of oral English development in the foreign language classroom setting. This chapter will describe the ways in which these variables were to be investigated and the ways in which the collected data were prepared and analysed. It will also discuss the ways in which the nine relationships were to be explored.

### 5.1 Research Design

#### i) *Prior considerations*

**Nature of the design** This study adopted the design typical of the *ex post facto* type of research whose definition, according to Kerlinger (1973), is that of a

systematic empirical inquiry in which the scientist does not have the direct control of independent variables because their manifestations have already occurred or because they are inherently not manipulable. Inferences about among variables are made, without direct intervention, from concomitant variation of independent and dependent variables. (p.379)

The classification of the present study as *ex post facto* in nature was based on the following two characteristics:

First, the purpose of the study was to investigate L2 learning in a "natural" foreign language classroom setting without direct intervention from the researcher. Any direct control of the manipulable independent variables (e.g., classroom instruction) would change the nature of the learning context, making it "artificial".

Second, some variables in the present study were difficult to be manipulated. Examples were the learners' attitudes toward English learning and toward the learning environment, and their learning strategies.

Thus, the necessity of investigating English learning in a natural classroom setting, and the unmanipulability of some of the independent variables, made it inevitable that the relationships between the variables had to be inferred from the results of the empirical investigation of the variables. Therefore, the design necessarily had to consider the type and/or degree of the relationships and not their cause and effect.

**Investigative approach** Because the focus of the present study was oral English *development over time*, in terms of "function-form" relationships, the logical investigative approach would be longitudinal. However, an alternative method was cross-sectional approach. In cross-sectional studies, the results achieved at a single time from learners at different levels of proficiency are taken as the development of the L2 over time and interpreted as such. But owing to differences in terms of target language input, in terms of methods of instruction, and in terms of learning context, the results of such studies were generally regarded as unreliable and their interpretations therefore invalid (Ellis, 1985a). By comparison, longitudinal studies are free from these shortcomings. Indeed, the strength of this method, according to Dulay et al. (1982), "lies in the fact that the data collected represent the speech of the learner actually developing over some period of time." (pp.245-246) Therefore, the longitudinal approach was adopted.

**Generalisability of research results arising from small number of learners studied** The adoption of longitudinal approach in the present study would entail the detailed description of the variables to be investigated over a relatively long period of time. Due to the amount of work involved in an exhaustive description, it would be impossible to study a large number of learners at the same time. Therefore, only a small number of learners could be chosen. This, in turn, would mean that the generalisability of the research results would suffer. In other words, the results of the present study would not be automatically generalisable to the Chinese university students of English in other parts of P.R.China. However, some researchers have not regarded generalisability as an important issue in L2 classroom research. For example, van Lier (1988) has stated that,

CR (classroom research) as context-based analysis can ... not have as its primary aim the immediate generalisability of findings. (p.2)

He then added,

I am not suggesting here that generalizing is not important in theory formation. However, it must be well-founded, and thus cannot be a central aim in the initial stages of research. (p.17)

Given the youthfulness of the field of L2 classroom research, and the paucity of English classroom research in the Chinese context, the present author agreed with van Lier's view that a particular study is important for itself as well as for its relevance to other research.

## *ii) Sample*

The site of this study was the Foreign Languages Department of Fujian Teachers University in the People's Republic of China. This particular place was chosen for two connected reasons. First, the present study was part of the joint PhD program

between the University of Tasmania and Fujian Teachers University. Second, the author had taught English there for more than five years, and so familiarity with the institution made easier the task of getting access to resources.

Empirical investigation began in October of 1989. In that year, 109 students majoring in English were enrolled in September. Eighty-one were female and 28 were male. Upon their arrival at the University, they had to take part in a three-week compulsory military training program. The students all knew that they would become teachers of English after the graduation. The enrolment of the students was based on two criteria. The first was whether the students applied to major in English of their own accord. The second was the students' performance in two examinations. One was the Matriculation Examination in English (MET 89), and the other was an oral English test. Nine female and two male students were directly enrolled without taking these tests because of their excellence in English during secondary school years. To help make the sample more internally reliable, they were excluded from the study. This was also an attempt to control the extraneous variable of *self-selection*. The number of students from which the subjects for the present study could be chosen was thus 98. The 109 students were divided into five classes, the size of each class being about 22 students. Twenty students were chosen from the 98 as the subjects. Random sampling was used in the choice of the 20 subjects (Table of Random Numbers (1) from Wang, 1986: 352-353).

The subjects' background in English learning was indicated via "Questionnaire about English Learning in High Schools" (Appendix 2). The questionnaire was written in Chinese in order to improve the subjects' understanding of the questions. In addition to the personal details such as name, sex, age, and graduating school, the questionnaire sought the following information on the subjects' experiences of learning English in high schools: the year when they started English learning, class hours per week, the way(s) in which English was taught in class, the types of exercises in English they did, and their contact, in terms of reading, listening, speaking and writing, with English outside the classroom.

The subjects were aged between 17 and 19 when they were enrolled. All spoke Chinese as their first language, and began learning English from Grade 1 of junior high school. (In China, secondary education is divided into two stages. The first stage is junior high school, which is three years. The second is senior high school, which is also three years) Thus all subjects had learned English for six years at entrance to University. Class hours per week showed some variation, but most of the subjects usually had four to six classes per week. The specific ways in which English was taught varied from subject to subject. Nevertheless, from the subjects'

description, a general pattern of class teaching could be detected.

At the beginning of the class, the teacher modelled the enunciation of the new words to be taught. This was followed by an explanation of the meaning of these words. Then students were required to read aloud the new words after the teacher. After this the teacher explained the meaning of the text, together with grammatical rules and expressions singled out by textbook compilers as the main points. Students then read aloud the text after the teacher. This was followed by the teacher's explanation of the spots in the exercises section which the teacher considered as difficult, and the assignment of homework.

The types of exercises in English also varied. However, from the subjects' description, it was clear that these exercises all aimed at providing opportunities for students to become familiar with the vocabulary and grammar learnt in class. Actual use of the target language was not emphasised.

Most subjects reported that they did some reading of English outside the classroom. The reading materials were simplified versions of English novels, journals of English learning, and/or the materials distributed by teachers in class. A few reported that they listened to foreign broadcasts such as BBC and VOA news, and watched news in English on television. However, virtually no one reported the experience of speaking and writing in English outside the classroom.

No attempt was made to test the subjects' knowledge of English. However, judging from the MEE (Matriculation Examination in English) paper, the subjects should have grasped the basic grammar of English and have an English vocabulary of about two thousand words. No subject dropped out of the study during the data collection period.

### *iii) Procedures of investigation*

Since this study would adopt an ex post facto design, variables had to be investigated only after they manifested themselves. Therefore, observation and description would be characteristic of activities to be carried out when investigating variables.

Taking into account the fact that a longitudinal approach was adopted for the study, it was proposed to investigate the variables as follows. Figure 3 provides a diagrammatic representation of the procedures of investigation.

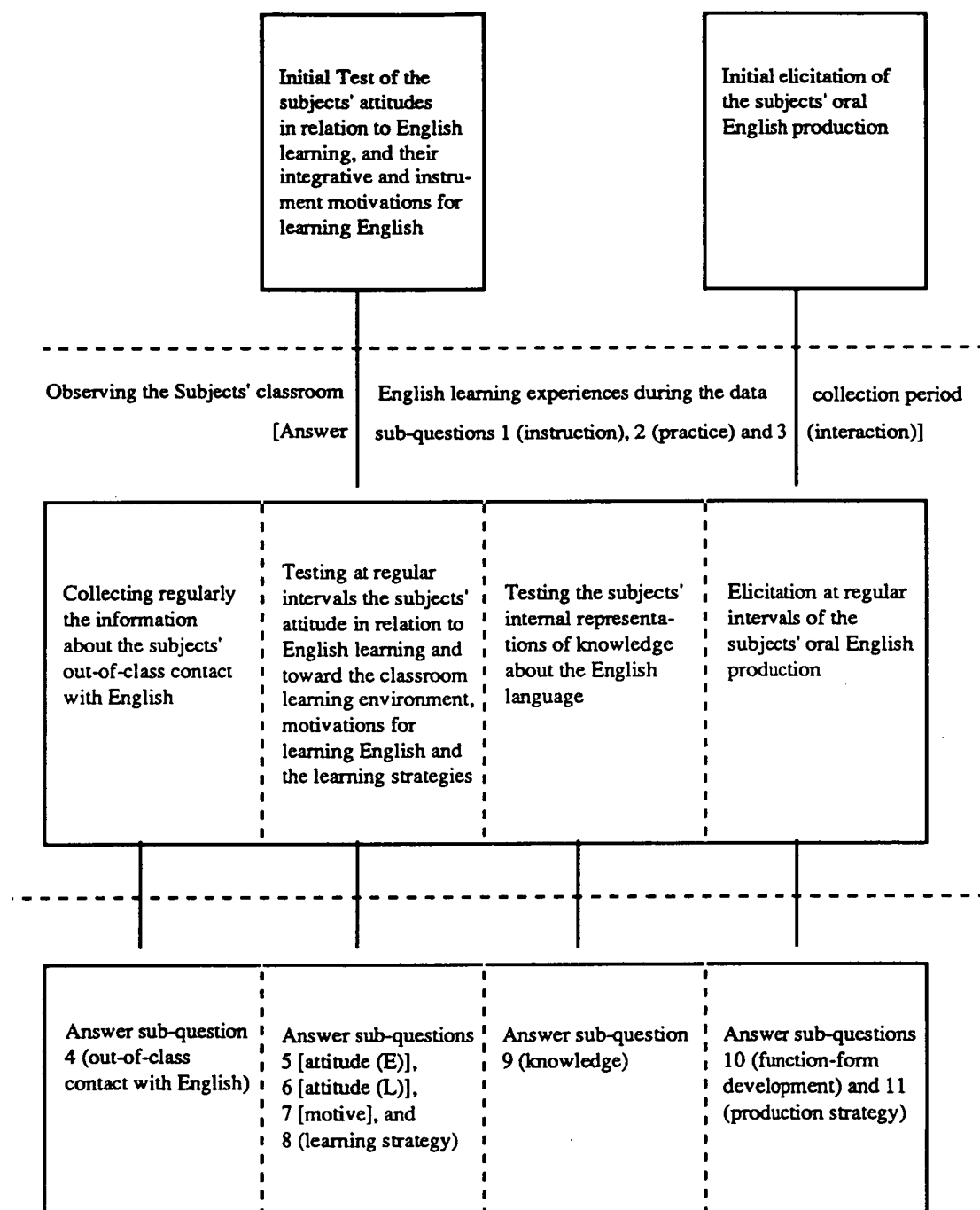


Figure 3 Model Showing Research Procedures Adopted in the Study

Before the subjects chosen for study began their English learning in the particular learning environment of this study, their oral English ability to express the discourse and case function under examination, their attitude in relation to English learning, and their integrative and instrumental motivations for English learning were tested. The reason for testing the subjects' oral English ability was that before

they were enrolled, the subjects had already studied English for six years in secondary schools. A pre-test would allow the assessment of how the English learning at the University would affect the development of their oral ability in English. The reason for testing the subjects' attitude in relation to English learning, and their integrative and instrumental motivations for learning English before English learning at the University was that these subjects had applied to major in English of their own accord. Therefore, they must have had a special attitude in relation to English learning, and they must have been motivated by something to do so. A pre-test of these individual characteristics would also allow the assessment of how their English learning experiences at the University would affect their initial attitude towards, and motivation for, learning English.

After the subjects began their English learning in the learning environment of the study, their attendance in English classes throughout the data-collection period was observed. The focus of observation was on the three variables listed under the aspect of Learning Context (Table 3, p.68), viz., types of knowledge of English taught during instruction, types of practice in English, and types of interactions between the teachers and the learners. By doing so, sub-questions 1, 2, and 3 could be answered. The indicator terms for the three sub-questions are **instruction**, **practice**, and **interaction** respectively.

In the same period that the subjects' classroom learning experiences were being observed, investigations of other variables were also carried out. They included:

- the collection at regular intervals of information about the subjects' daily out-of-class contact with English (This would provide the answer to sub-question 4, the indicator term for which is **out-of-class contact**),

- the testing at regular intervals of the subjects' attitude in relation to English learning, their attitude toward the classroom learning environment, their motivations (viz. integrative, instrumental, surface, deep, and achieving) for learning English, and their learning strategies (This would provide answers to sub-questions 5, 6, 7, and 8. Their indicator terms are **attitude (E)**, **attitude (L)**, **motive**, and **learning strategy** respectively),

- the testing of the subjects' internal representations of knowledge of the English language (This would provide the answer to sub-question 9. Its indicator term is **knowledge**), and

- the examination of the linguistic forms and the strategies which the subjects employed when they orally expressed the discourse and case functions under examination (This would provide answers to sub-questions 10 and 11. Their indicator terms are **function-form development** and **production strategy** respectively).

## 5.2 *Instrumentation*

### i) *Observation of subjects' classroom English learning*

No particular instrument was adopted to observe the subjects' classroom English learning, because an ethnographic approach was followed. There were three reasons for adopting the ethnographic approach. First, the adoption of other approaches such as interaction analysis or discourse analysis entailed setting up, prior to the observation period, the analytical devices required to describe and evaluate the observed activities in class. Although classroom observation in the study focused on three general aspects of the subjects' learning experiences, viz. instruction, practice and interaction, the ethnographic approach did not require pre-determination of the specific classroom events to be observed. Second, predetermination of the events to be observed would have restricted attention to certain classroom activities only. Other equally important classroom activities could have been overlooked (cf. the criticisms of interaction analysis, 3.2 i, p.25). Third, since the ethnographic approach did not require preselection of the classroom activities, there was no tendency to predict the classroom learning experiences. Effects of the extraneous variable of "researcher expectancy" could therefore be minimised.

### ii) *Language Contact Profile Questionnaire*

The instrument used to gather the information about the subjects' out-of-class contact with English was the Language Contact Profile Questionnaire (LCPQ) (Appendix 3). This questionnaire consists of 10 items. The ways that these items were designed are described below.

The first six items were written on the basis of the written self-reports by the subjects, which described what they usually did every day to study English. The self-reports were made toward the end of the first semester after their English learning at the University. A summary of the self-reports showed that the following six activities were common to all the subjects in their daily out-of-class contact with English:

- reading aloud the text under instruction,
- memorising new vocabulary,
- listening to aural materials assigned by teachers or to English broadcasts,
- reading materials assigned by teachers,
- leisure reading of English novels, newspapers and magazines, and
- doing teachers' written assignments.

Therefore, the six activities became the content of the first six items of the questionnaire. The way in which the amount of time which the subjects spent on



each of these activities was measured was adopted from items 10 to 18 in "The Language Contact Profile Questionnaire" (Day, 1984, pp.99-101).

Items 7, 8 and 9 were based on item 23 of Day's questionnaire, which asked about the L2 learners' preference for native language or English in reading. Based on the subjects' self-reports and the author's own experiences as a student of English in the similar situation, the subjects in this study would also participate in listening and speaking activities outside the classroom. Therefore, their preferences for Chinese or English in listening and speaking were also included in the questionnaire. The way in which preference was measured was also adopted from Day.

The last item was adopted from item 21 in Day's questionnaire, which asked the L2 learners to list the activities which they did and which helped them learn English. Since some of the activities in the subjects' self-reports were not included in the questionnaire because of their individuality, this item would be able to collect those more individual types of contact with English. The scoring method for this item was also adopted from Day.

The content of the items was not changed in the second and the third semesters. This was so because, through informal talks with the subjects in the same period, it was found that the subjects usually had the same types of out-of-class contact with English.

The items were written in Chinese in order to assist the subjects' understanding of the content. The items of the questionnaire had surface reliability and content validity because they basically came directly from the personal experiences of the subjects and of the author.

iii) *The Attitude in Relation to English Learning Questionnaire, The Motivation for Learning English Questionnaire, The Attitude toward the Classroom Learning Environment Questionnaire, and The English Learning Process Questionnaire*

These questionnaires were designed to investigate the individual characteristics of the subjects identified in the conceptual framework described in 4.4. These specific individual characteristics were: attitude in relation to English learning, which consisted of attitude toward English-speaking people and interest in English learning; attitude toward the classroom learning environment; motivation for learning English, which comprised integrative motivation, instrumental motivation, surface motive, deep motive, and achieving motive; and learning strategies, viz. surface strategy, deep strategy, and achieving strategy.

**The Attitude in Relation to English Learning Questionnaire (AELQ)** The subjects' attitude toward English-speaking people and their interest in English learning were investigated by this questionnaire (Appendix 4).

There were five items under each attitudinal aspect. All the items were adapted from the Attitude/Motivation Test Battery (AMTB) (Gardner, 1985). More specifically, the items under "attitude toward English-speaking people" (AEP) were based on the items under "attitudes toward French Canadians" and "attitudes toward European people" in AMTB. The items under "interest in English learning" were adapted from the items under "interest in foreign language" and "attitudes toward learning French" in AMTB. The experiences of the author as a student of English in a similar situation were also drawn upon during the adaptation.

The subjects' responses to each of the items were measured by a Likert 5-point scale, which was also adopted from Gardner's AMTB. In order to assist the subjects' understanding of the items, the questionnaire was presented in Chinese.

**The Motivation for Learning English Questionnaire (MLEQ)** This questionnaire was also adapted from Gardner's (1985) AMTB to test the subjects' integrative motivation and instrumental motivation (Appendix 5). According to Gardner and Lambert (1959), integrative motivation refers to L2 learners' wish to identify with another ethnolinguistic group, and instrumental motivation, to their utilitarian purposes to benefit from their knowledge of the target language.

The questionnaire consisted of ten items. Five of them were adapted from the items under "integrative orientation" in AMTB, and the remaining five from the items under "instrumental orientation" in AMTB. The experiences of the author as a student of English in the similar learning environment were also drawn upon during the adaptation.

The subjects' responses to each of the items were measured by a Likert 5-point scale, which was also adopted in Gardner's AMTB. In order to assist the subjects' understanding of the items, the questionnaire was presented in Chinese.

The reliability of Gardner's AMTB has been tested by its administration to students learning other foreign languages than French. Laine (1977, cited in Gardner, 1985) applied it to Finnish students of L2 English and found that

Cronbach alpha coefficients for nine measures which are comparable to the major attitude/motivation variables ranged from .78 (integrative orientation) to .93 (attitudes toward learning English). Test/retest coefficients varied from .30 (orientation index) to .86 (desire to learn English). (Gardner, 1985: 69)

This test battery was also administered to American students learning Spanish as an L2. The result was also positive: "Cronbach alpha reliability coefficients for the subscales ranged from 0.48 (instrumental orientation) to 0.93 (Spanish course evaluation)" (Gardner 1985: 70).

**The Attitude toward the Classroom Learning Environment Questionnaire** The subjects' attitude toward the learning environment was tested by the Attitudes toward Classroom Learning Environment Questionnaire (ACLEQ) (Appendix 6),

which covered the items on the following **primary** aspects of the learning environment to be tested:

- English class anxiety (ECA),
- attitude toward the teaching methods (ATM), and
- attitude toward the course materials (ACM).

The selection of the above as the aspects toward the learning environment was also based on a summary of the subjects' self-reports on how they thought and felt about learning English at the University. The task of writing this self-report was assigned to them by the author toward the end of the first semester. Description of their feelings during the English classes, and their comments on teaching methods and course materials were common to all the subjects. Therefore, they were selected for inclusion in the questionnaire as the three aspects of the subjects' attitude toward their learning environment. The items had surface reliability because they were directly from the subjects' personal experiences.

There were four items under each attitudinal aspect. The subjects' responses were also measured by a Likert 5-point scale. To assist the subjects' understanding of the items, the questionnaire was again presented in Chinese.

**The English Learning Process Questionnaire** The English Learning Process Questionnaire (ELPQ) was aimed at testing the subjects' surface, deep, and achieving motives, and their congruent surface, deep, and achieving strategies (Appendix 7). Following Biggs' (1988) definitions, surface motive means an extrinsic motive to meet the requirements of courses without putting in too much effort in study; deep motive refers to an intrinsic motive to find out more about the subject matter being taught; and achieving motive is a competitive motive to obtain the highest possible grades in examinations. Surface strategy refers to that which is essentially reproductive; deep strategy is aimed at gaining more knowledge and understanding, using and extending that knowledge; and achieving strategies refer to the "organisational behaviours that are supposed to characterise the model student, such as keeping clear notes, planning optimal use of time, and all those planning and organisational activities referred to as 'study skills'" (p.199).

The items of this questionnaire were adapted mainly from the Study Process Questionnaire (SPQ) (Biggs, 1987b), which was designed to assess tertiary students' approaches to academic learning. The reason for adapting the SPQ was that it was an appropriate instrument for this study in two important respects. First, following Biggs (1987a), the author has also adopted the view that a particular motive for learning is associated with a congruent learning strategy. Since the SPQ was designed to test the association of the two variables, naturally it was regarded as suitable for the purpose of this study. Second, the SPQ was aimed at assessing

tertiary students' approaches to academic learning. Given that the study also investigated university students and that English has been learnt in China as an academic course, the SPQ was also an appropriate instrument for the purpose of the study. During the adaptation, the author's own experiences as a learner of English in the Chinese context were also drawn upon.

This questionnaire consists of 42 items, seven under each type of motive, and each type of strategy. The subjects' responses were also measured by a Likert 5-point scale, as adopted in the SPQ. The items were all presented in Chinese in order to assist the subjects' understanding of the items.

The reliability and the validity (factorial validity and construct validity) of the SPQ have been tested in various studies. The results tended to give high reliability and high validity of the SPQ. For the details of the tests, see Biggs (1988: 201-3) for a summary.

#### *iv) The Metalinguistic Judgment Test*

The subjects' internal representations of knowledge of the English language were sought from The Metalinguistic Judgment Test (Appendix 8). The test consisted of two narratives produced by two subjects, S4 and S11 at the 4th elicitation session of the subjects' oral production (See the next sub-section for details of the elicitation of subjects' oral production). The two narratives were chosen because (i) there was nothing personal in the content of the narratives, and (ii) a large number of grammatical errors were committed and they were not self-corrected.

The method of having the subjects judge their own oral production was based on the results of research which found that L2 learners' own oral production might not be the same as their own internal representation of the target language system (See 3.5 i, pp.48-50). Since it was assumed that in the foreign language classroom setting, a gap would exist for a long time between the learners' internal representations of the target language system and their oral production ability (See 4.4, p.65), having the subjects judge their own production would enable the testing of the above assumption.

One alternative to the choice of only two subjects' narratives would have been to have each of the 20 subjects judge his/her own production. But it was beyond the author's resources to carry out a project of such magnitude. In the meantime, such an alternative might not be necessary because it was found that the subjects committed similar types of errors in their oral production. Therefore, by having the subjects judge these common errors, their internal representations of the English knowledge could still be determined.

Another alternative to choosing the subjects' own oral production as the instrument to test their internal representations of the knowledge about the English

language could have been having the author write a test in which some linguistic forms were deliberately made erroneous according to Standard English. However, since the study did not intend to investigate the subjects' acquisition of particular linguistic features, but rather the gap between their knowledge and production, this alternative could not have been adopted.

The chosen narratives were transcribed and errors identified by the author. The basis for error identification was Standard English.

The two narratives consisted of 30 units. The separation of the speech streams into units was based on semantic criteria. That is to say, whenever there was a change in content, a unit was recognised. Therefore, some units had only one clause, while others had several. The narrative produced by S4 contained 14 units, and the one produced by S11 contained 16 units.

The errors in the two narratives varied in type. Some were idiosyncratic, while others were more common among the subjects. The idiosyncratic errors were mostly made in the choice of lexical items and syntactic structures. These errors were excluded from the test due to the lack of definite criteria for assessing the judgments made and the corrections provided by the subjects. The more common errors were made in the use of tense, pronoun, number agreement (both subject-verb and determiner-noun) and articles. Since there are more clear-cut rules governing the use of these features, they were selected as the content of the test. The numbers of each type of common error were as follows: tense errors: 18, pronoun errors: 15, determiner-noun number agreement errors: 5, subject-verb number agreement: 2, and article errors: 2.

#### *v) Oral English production: narratives*

The subjects' oral English development was examined by having each of the subjects present two narratives at regular intervals. One concerned an event which the subject had experienced personally in the past, and the other was about an event which the subject's friend or somebody he/she knew had experienced in the past.

The narrative as the task for elicitation was chosen because the functions to be examined in the study were most likely to be expressed in this mode of speech. As mentioned in 4.3 (p.61), functions to be investigated in the study were discourse function and case function. The discourse functions chosen for examination were "foreground" and "background". "Foreground" by definition was "any clause that pushes the event line forward", (Kumpf, 1984: 135) while "background" referred to "those clauses which elaborate on the event line" (p. 133). The case function chosen for examination was "temporality". Although the notion of time does not appear to fit Pfaff's (1987) examples of "case function", i.e., grammatical functions "subject"

and "object" and their semantic functions of "agent" and "recipient", etc, yet it does represent to a certain degree the relationship between a grammatical function (i.e., a verb is an important part of the "predicate", which describes the situation of the subject of a sentence) and a semantic function (i.e., a verb indicates the time-associated action performed by the subject of a sentence), as defined by Pfaff for the case function. Therefore, "temporality" was treated as an example of case function in this study. Since a narrative would consist of a series of events happening in the past, this type of speech was selected as the instrument for the test.

### 5.3 *Data collection*

As the description of instruments in the above section has indicated, five general categories of data were collected in this study. They were (i) the subjects' classroom English learning experiences, which consisted of instruction, practice and interaction, (ii) the subjects' out-of-class contact with English, (iii) the subjects' individual characteristics, viz., attitude toward English-speaking people, interest in English learning, integrative motivation, instrumental motivation, surface motive, deep motive, achieving motive, surface strategy, deep strategy, and achieving strategy, (iv) the subjects' internal representations of knowledge of English, and (v) the subjects' oral English production. This section will describe the ways in which these categories of data were to be collected. But before this, the time frame of data collection is described first.

#### *i) Time frame for data collection*

The data collection began on 14th of October, 1989, and ended on 16th of January, 1991. In this 15-month period there were about three months when the subjects were absent on vacation. The vacation periods were as follows:

18th January, 1990 - 14th February, 1990

3rd July, 1990 - 29th August, 1990

In addition to the vacation, there was also a period of two weeks before the end of each semester in which no classes were conducted. This period enabled the students to review lessons and prepare for final examinations. Since the data collection period covered three semesters, another six weeks have to be deducted. Thus, the actual length of the period was about 11 months.

#### *ii) Subjects' classroom English learning experiences*

The method adopted for observing the subjects' classroom English learning was a *non-participant observation*, which is a recognised ethnographic approach.

There are three procedures of investigation within the ethnographic approach:

participant observation, non-participant observation, and constitutive ethnography. (See 3.1 i, pp.26-27) Non-participant observation was chosen because of the following two reasons. First, participant observation requires that the researcher keep the teachers and the subjects uninformed about the investigation by simply being a member of the group. This was not possible, given that the researcher in this case had been a staff member in the Department. A constitutive ethnographic method entailed filming or videotaping the classroom proceedings together with the participants' comments on the author's analysis of the observed events. The technology and amount of work involved in carrying out this kind of investigation were beyond the resources available to the author.

The courses attended by the subjects during the three semesters of the data collection period, together with the class periods for each course per week, are summarised in Table 4.

| <p style="text-align: center;"><i>Table 4</i></p> <p style="text-align: center;"><i>A Summary of the Courses Subjects Attended in Data Collection Period, together with Class Periods for Each Course per Week</i></p> |                         |              |
|--|-------------------------|--------------|
|  | Course Name             | Periods/Week |
| Semester 1 (Oct. 89 - Jan. 90)   | Basic English           | 6            |
|  | Listening Comprehension | 2            |
|  | English Reading         | 2            |
|  | English Conversation    | 2            |
| Semester 2 (Feb.90 - Jun.90)   | Basic English           | 6            |
|  | Listening Comprehension | 2            |
|  | English Reading         | 2            |
|  | English Conversation    | 2            |
| Semester 3 (Sept.90 - Jan.91)  | Basic English           | 6            |
|  | Listening Comprehension | 3            |
|  | English Reading         | 3            |
|  | English Conversation    | 2            |
|  | English Grammar         | 2            |

All courses were conducted in a normal classroom except the course of Listening Comprehension, which was conducted in a language laboratory. In addition, the subjects had to sit with another class of students when attending the Listening Comprehension class and the English Grammar class.

Generally, the teachers conducted the classes from the front of the classroom or the language laboratory. Only during the last semester of the observation period in Conversation classes, which were taught by native speakers of English, were the subjects ever required to sit in a circle or split into groups. Therefore, the author usually sat at the back of the classroom or the laboratory. The classroom proceedings in all the courses, excepting the Listening Comprehension, were audio-taped with 60-minute cassette tapes using an HS-J170 AIWA cassette recorder. The discipline

of the classes was usually stable, and the recorder was fitted with an external microphone. Thus, the teachers' instruction, the learners' oral production, and the oral interactions between the teachers and the subjects were generally clearly recorded. However, group work could not be recorded because of noise. The language laboratory, in which Listening Comprehension classes were observed, contained 60 booths. Each booth was fitted with a built-in cassette tape-recorder on the desk, and a headset with a microphone attached. There was a booth for each subject. The teacher conducted the class from the control panel in the front. Communication between the teacher and the subjects was through the microphone, and could be heard by everyone through the headset. Class proceedings were recorded by the built-in cassette tape-recorder on the desk in the booth.

During the audio-taping of class proceedings, activities which could not be recorded orally were recorded by handwriting. The focus was on the three aspects of classroom L2 learning chosen for investigation, viz. instruction, practice, and interaction.

There was no sure way of testing the reliability of observations because the author was the only observer in the classroom. Two measures were taken to solve this problem. One was the audio-taping of the whole class proceedings, and the other was noting the behaviours as they were occurring without any interpretation of their significance.

As can be seen from Table 4 (p.83), in the three semesters for data collection, the time for class instruction was 12 weeks, 17 weeks, and 19 weeks respectively. In the first two semesters, the total number of class periods per week was 12, while in the third semester, the total number of class periods was 16. The author observed and recorded every class period for every course. Thus in the three semesters, 144, 204, and 304 class periods were observed respectively. Each class period lasted 50 minutes, and so during the three semesters, 120, 170, and 253 hours of recordings were made respectively. The total number of class observation recordings was 543 hours.

Attempts were also made during the observation period to control possible extraneous variables such as the Hawthorne effect, subject expectancy and artificiality.

The control of the Hawthorne effect was attempted by informing the subjects that their inclusion in the present study was made only through random sampling rather than on the basis of other considerations, and that the present investigation was not aimed at evaluating their academic achievement. The teachers involved were informed that the investigation was learner-centred, and did not aim at evaluating the effectiveness of their teaching. Neither the subjects nor the teachers had any knowledge of the objectives of the observations. Since the subjects were not



informed of the aims of the study, it was hoped that the extraneous variable "subject expectancy" could be controlled. Since both the subjects and the teachers were ignorant of the aims of the study, it was intended that the "naturalness" of classroom teaching and learning be maximised.

*iii) Subjects' out-of-class contact with English*

Information about the subjects' daily out-of-class contact with English was gathered by administering the Language Contact Profile Questionnaire (LCPQ, see Appendix) to the subjects at the end of each semester during the data collection period. Altogether three administrations of this questionnaire were conducted. In the second and the third testing sessions, the questionnaire was administered in equivalent forms. There was no time limit imposed for the completion of the questionnaire.

An alternative to the above method could have been to require each of the subjects to report on a daily basis his/her types and amount of out-of-class contact with English. However, this method presupposed the full commitment of all the subjects to this research project, which the author regarded as almost impossible, given the length of the data collection period and the amount of time required to finish such a task on a daily basis. Therefore, the application of a questionnaire at regular intervals was the method adopted.

*iv) Subjects' individual characteristics, viz. attitude in relation to English learning, attitude toward the classroom learning environment, motivations for learning English, and learning strategies*

As soon as the subjects arrived at the University, their attitude toward English-speaking people, interest in learning English, integrative motivation and instrumental motivation were tested. The purpose was to use the results of the test as a frame of reference against which the subsequent changes in the two individual characteristics could be detected. The two characteristics were tested again three times during the three semesters after the subjects began English learning in the classroom, one at the end of each semester. The questionnaires used (i.e., the Attitude in Relation to English Learning Questionnaire (AELQ), Appendix 4, and Motivation for Learning English Questionnaire (MLEQ), Appendix 5) were administered in equivalent form.

The subjects' attitude toward the classroom learning environment, their surface, deep and achieving motives for learning English, and the three congruent learning strategies were tested three times in the three semesters after the subjects began English learning in the classroom, one at the end of each semester. In the second and the third testing sessions, the questionnaires used (i.e., the Attitude toward the Classroom Learning Environment Questionnaire (ACLEQ), see Appendix 6; the

English Learning Process Questionnaire (ELPQ), see Appendix 7) were administered in equivalent forms. The reason for not testing the subjects' surface, deep, and achieving motives before they began English learning at the University was that they had been assumed by Biggs (1988) to be related to the academic learning situation.

There was no time limit imposed for the completion of all the questionnaires in all testing sessions.

While the usual manner of testing L2 learners' attitude and motivation has been via questionnaire, alternatives have been employed to test L2 learning strategies. These are classroom observation, the subjects' reports on their own insights into their learning strategies, and subject interviews. Classroom observation has been criticised for not being able to capture what went on "inside the learner's head", and this method has failed to produce useful results (See 3.3 ii, pp.43-44). Therefore, this method was not adopted in the present study. Having subjects report on their own learning strategies was not adopted because of the doubt about the veracity of such self-assessment. In addition, adoption of this method would involve a large amount of work, which was not practical in this study. The interview method was not adopted because of the volume of time and work required to complete the task.

It should be noted that, despite doubts concerning the veracity of L2 learners' self-reports on their learning strategies, a questionnaire - although itself a form of self-report - was adopted to elicit the subjects' responses in this respect. Given the time and resources that could be devoted to data collection, questionnaire administration was regarded as the most practical means of gathering appropriate information.

Control of practice effect was attempted by lengthening the interval between two administrations of questionnaires (three, five, and six months respectively for three administrations) and by varying the order of questionnaire items.

*v) Subjects' internal representations of the English knowledge*

The subjects' internal representations of the English knowledge were examined by their performance of a metalinguistic judgment test in the first semester of the data collection period. It had been planned that a metalinguistic judgment test would be conducted at each semester during the data collection period so that development of the subjects' internal representations of knowledge of English could be traced. This was not fulfilled because it was found that the subjects monitored their oral production more and more during elicitation sessions. The result of the intense monitoring was the extensive self-correction of the subjects' own use of linguistic forms. Obviously, the basis of an ability to self-correct was the subjects' knowledge of English. Thus, self-correction was actually a reflection of the subjects' internal

representation of English. The subjects' internal representations of English could be obtained by analysing their self-corrections during the oral production.

Before the test, the author explained the requirements of the test to the subjects. Since no time limit for completion of the test was imposed, the subjects were not required to give immediate responses, and they could also change their minds in judging individual semantic units.

The subjects were required to perform the following four tasks in the test: (i) discriminate between the correct and incorrect units according to their intuition and understanding of English, (ii) locate the error(s) if they thought the unit contained incorrect element(s), (iii) correct the error(s) according to their knowledge of English, and (iv) state the rule(s) the error(s) broke. In order to test the degree of determinancy of their internal representations, the subjects were also required to indicate whether they were certain about the judgments and corrections they made when performing Tasks i), ii) and iii).

*vi) Oral production of English*

Prior to the subjects' first English lesson at the University, their oral narratives were elicited. The purpose was to determine how the discourse and case functions under examination were linguistically expressed when the subjects, who had virtually no experiences in spoken English, first tried to convey their meaning in English. This initial stage of "function-form" relationships served as a frame of reference against which the subsequent changes in the relationships could be detected.

After this first elicitation session, the subjects' speech samples were elicited at three- or four-week intervals. Since the general topics of the two narratives were held constant, subjects had to recycle topics of a similar nature. In this way, the speech samples from each elicitation session could be compared and the changes in "function-form" relationships detected.

Before the subjects began to talk, they were allowed a preparation time of about 10 minutes to think about their stories. The author neither knew nor had any expectation of what the content of each subject's narratives might be. The subjects' narratives were audio-taped by use of an HS-J170 AIWA cassette recorder and were transcribed orthographically. Altogether 14 sessions of elicitation were conducted, and 550 samples of speech collected (S9, S10, S11, and S12 did not take part in the second elicitation session, and S16 did not take part in the 11th elicitation session).

To minimise naturally occurring variables, the elicitation sessions were invariably held in the same room. The elicitation time was so arranged that there was no outside noise which could distract the attention of the subject. In each session, the subjects performed the task one by one, and only the author was present. Before the

performance of the task, the author would talk casually with the subject. This one-to-one setting obviously reduced the subjects' tension.

Two measures were attempted to control the extraneous variable of "practice effect". The author never provided corrections to mistakes. Neither were answers provided when the subject asked if the use of a certain form was correct or not. Also, during the talk, probing questions were asked so that the subjects could clarify or elaborate upon points made. In this way, more authentic communicative situations were created and the effects of preparation minimised. These two measures helped also to control the extraneous variable of "artificiality".

#### **5.4 Preparation of data and their analyses**

The collected data had to be prepared before they were analysable. This was so because of the variety of ways in which they were collected, the transcription of the audio-taped classroom activities (as from the investigation of the subjects' classroom English learning experiences), the written responses to the metalinguistic judgment test (as from the investigation of the subjects' internal representations of the English knowledge), and the transcription of oral production (as from the elicitation of the subjects' oral narratives). Regarding the subjects' responses to the items of the questionnaires, their nature had to be determined in the first place. This section first describes the ways in which each category of data was prepared. Then the ways in which the prepared data were analysed are described.

##### ***i) Subjects' classroom English learning experiences***

The teachers' instructions, the subjects' opportunities to practise in class, and classroom interactions were separated from each other. The teachers' instructional activities were classified into three categories, viz. instruction of specific linguistic items, the manner of instruction, and the English used during the instruction (excepting the English from teaching materials). The English used during the instruction was described according to the type of clause used, the type of verb used, the tense and aspect of the verb used, and the time reference of the verb.

The subjects' opportunities to practise English in class were classified according to the types of the task. The English used during the oral practice was also described. More particularly, the subjects' oral production was described according to the type of clause, the type of the verb, the tense and aspect of the verb, the time reference of the verb, and the production strategy.

It was found that all the classroom interactions were between the teachers and the subjects, and the interactions were invariably in the form of the subjects answering the teachers' questions. Thus, classroom interactions were described according to the

following aspects of each instance of question answering:

- ways in which subjects were questioned, i.e., collectively or individually,
- types and forms of question teachers directed to the subjects,
- ways in which subjects responded to the question, i.e., using English or Chinese,
- oral English production by the subjects, and
- feedback by teachers about the subjects' performance.

The manner of describing the subjects' oral English production during the interaction was the same as that of describing their oral English production during the classroom practice, i.e., the English used was described according to the type of the clause, the type of the verb, the tense and aspect of the verb, the time reference of the verb, and the production strategy.

It was planned that the results of the classifications and the descriptions would entered into a Macintosh SE computer, using a statistical program StatView SE+Graphics, and then the frequency with which each type of activity and linguistic feature occurred would be calculated. However, due to the time restriction of the project, the author was not able to carry out this plan. Nevertheless, the experience of observing every class during the data collection period still allowed him to describe in details the subjects' experiences of English learning in the classroom.

#### *ii) Subjects' out-of-class contact with English*

As mentioned above, the subjects' out-of-class contact with English consisted of three major categories. The first was the six activities from their self-reports. The second was the their preference for English or Chinese in reading, listening and speaking. The third was their participation in other activities that helped them to improve their English proficiency. The subjects' responses to the three categories of items were prepared in different ways.

The responses to the six items on the six activities were scored according to the procedures adopted in Day (1984), i.e., the scores were allocated by dividing the time reported in two. The responses to the three items on the preference for English or Chinese were sorted as a nominal variable so that percentage of the subjects could be calculated for each type of response. Two types of activity were found in the subjects' responses to the item on the participation in other activities, viz. non-oral and oral. For the participation in non-oral activity, the subjects were scored according to the number of activities reported. The subjects' indications of participation or no participation in oral activity were also treated as a nominal variable so that percentage of the subjects could be calculated for each type of indication.

The statistical techniques applied to determine the possible changes in the

subjects' out-of-class contact with English were also different. ANOVA (one factor, repeated measure) was adopted to test the possible changes in the amount of time which the subjects spent on the six activities, because this category of contact was measured on an interval scale, and the same subjects can be regarded as being tested under different treatments (i.e., the three semesters might mean three different learning environments for the same subjects). The Cochran Q test was applied to test the possible changes in the subjects' preferences for English or Chinese, and in their participation in oral activity. The test was chosen because the data were from more than two related groups ( $k = 3$ ) and could be dichotomised as "preference for English" or "participation in oral activity" and "no preference for English" or "no participation in oral activity". Finally, the Wilcoxon signed-rank test was applied to determine the change in the subjects' participation in non-oral activity. The adoption of this test was based on the assumption that the scores obtained by the subjects were on an ordinal scale ranging from a low number to a high number. In addition, the same subjects reported the number of non-oral activities three times, and so the measures of their participation were not independent at any two occasions.

*iii) Subjects' individual characteristics, viz. attitude in relation to English learning, attitude toward the classroom learning environment, motivations for learning English, and learning strategies*

As stated in 5.2 iii, the above individual characteristics were investigated via questionnaires. Since the responses to the questionnaires were all measured on a Likert 5-point scale, the data on these individual characteristics were prepared in the same manner. The ways in which the data were prepared are described below.

First, a subject's choice of a point on the scale for an item was scored. The value of the score was determined jointly on the meaning of the point on the scale, and on the way in which that item was written. In this study, a higher score was assigned to a more positive individual characteristic, such as a positive attitude, a high level of motivation, a low level of class anxiety, and an above moderate adoption level of a learning strategy.

Then, the subjects' scores for the motivations and the learning strategies were added up. However, the addition of the scores for attitude in relation to English learning, and those for attitude toward the classroom learning environment was performed to obtain two different types of total scores. One was the total scores for a sub-type of an individual characteristic, e.g., attitude toward English-speaking people in attitude in relation to English learning, English class anxiety in attitude toward the classroom learning environment. The other was the total scores for an overall individual characteristic, which was the sum of the scores for each sub-type under an individual characteristic. For instance, the sum of a subject's scores for

attitude toward English-speaking people, and those for interest in learning English equals to his/her total scores for overall attitude in relation to English learning.

Finally, the meanings of the scores obtained by the subjects for a single sub-type and for the characteristic were determined on the basis of (i) the total number of items under a single aspect or a characteristic, (ii) the meaning of each point on the scale, and (iii) the scoring method. The meanings of scores represented the nature (or profile) of the sub-type of characteristic or of the characteristic.

The possible changes in the above individual characteristics were all determined by applying ANOVA (one factor, repeated measure). The adoption of this test was based on two considerations. First, these individual characteristics can be regarded as being measured on an interval scale because they were represented by the sum of the scores added up from the subjects' responses to each item under a single aspect of the characteristic or an overall characteristic. Second, the subjects can also be regarded as being tested under different treatments, assuming that the three semesters meant three different types of learning environment for the subjects.

*iv) Subjects' internal representations of the English knowledge*

As shown in 5.4 v, the subjects were required to perform four tasks when taking the Metalinguistic Judgment Test, viz. discrimination task, location task, correction task, and rule statement task. In addition, the subjects were required to indicate whether they were certain or uncertain about their responses when performing the first three tasks. Thus, four possible types of responses would be expected of the subjects when they were performing the first three tasks. More specifically, the four possible types of responses were: (i) the subjects made incorrect responses according to Standard English, (ii) the subjects did not make any response, (iii) the subjects made correct responses according to the Standard English, but were uncertain about them, and (iv) the subjects made correct responses according to the Standard English, and were certain about them. There were three possible responses to the final task, viz. (i) the subjects provided incorrect rules according to the Standard English, (ii) the subjects did not state the rule, and (iii) the subjects stated correct rules according to the Standard English.

The subjects' responses in each task were first classified into the types of possible response in which they fit. Then each type of response was further categorised according to the type of linguistic features examined in the test. The results of this further categorisation were reflected in frequency distributions of responses under each of the five types of linguistic features examined in the test, viz. tense, pronoun, subject-verb number agreement, determiner-noun number agreement, and article.

### *v) Oral English production - narratives*

First, the clauses which expressed "foreground" and "background" functions were identified. Then the foreground and background sentences were separated for further description. The procedures of description were the same for both types of sentence:

- the syntactic structure of the sentence was described,
- the type of the main verb of the sentence was determined,
- the time reference of the sentence was determined,
- the type of main verb form of the sentence was described,
- the production strategies, both linguistic and non-linguistic, were identified and described.

The results of the description were then entered into a Macintosh SE computer using StatView SE+ Graphics to determine their frequency distributions.

It was found that the subjects not only employed morphological devices to indicate the past of the events, but also used organisational devices to express the order of events described in the narratives. Therefore, those speech samples which contained a story line were reanalysed by examining how the order of the events described was organised.

### 5.5 Analyses of the relationships to be explored in the study

Two types of analysis were attempted on the nine relationships explored in the present study. One was interpretative, and the other was statistical.

More particularly, the analyses of Relationships 1 and 6 to 9 were interpretative. These explored the relationship between the classroom learning experiences and attitudes in relation to English learning and toward the classroom learning environment (Relationship 1), the relationship between learning strategies and internal representations of the English knowledge (Relationship 6), the relationship between oral English practice in and out of the classroom and development of control over oral production (Relationship 7), the relationship between functions under examination, and the linguistic forms used and strategies adopted during the oral production (Relationship 8), and the relationship between oral learning outcomes and the subsequent English learning cycle (Relationship 9).

The reason for choosing interpretative analysis for these relationships was that the data collected on the relevant variables were different in nature, and so it was impossible to adopt statistical analysis.

The analyses of Relationships 2 to 5, which dealt with the relationships between attitudes, motivations and learning strategies, were statistical because the data collected on the relevant variables were the same in nature.



The choice of statistical methods was based on two considerations. First, since the design of the present research was *ex post facto*, and so it was the degree, but not cause and effect, of the relationships that was examined, the general statistical approach adopted was correlational analysis, because, according to Hatch and Farhady (1982), "(i)n correlation studies, researchers are interested in determining the degree of relationship between pairs of two or more variables." (p.192) Second, the subjects' responses were regarded as being measured on an interval scale. Therefore, Pearson product-moment correlation tests were adopted to analyse Relationships 2 to 5.

An option for analysing Relationships 2 to 5 would be by multivariate repeated measures techniques. This method was not considered appropriate for two reasons. First, there was a very large number of variables, and only 20 subjects. Thus, degrees of freedom were insufficient for tests of significance to be meaningful. Second, this study was intended as a kind of preliminary to a more detailed project, the idea being to conduct an analysis of a number of variables to try to select key aspects for further and closer examination.

## **Chapter 6 Results for Subjects' Learning Contexts - English Learning in the Classroom and Out-of-Class Contact with English**

In Chapter 5, the instruments and the methods of investigating the 11 variables have been described (For details of the variables, see Table 3, p.68). The ways in which the collected data were prepared and analysed, and the ways in which the nine relationships between the variables (p.69) would be interpreted, have also been discussed. The 11 variables belonged in three aspects of English learning, viz. learning contexts, individual characteristics, and learning outcomes. This chapter will describe the results for the investigation into the learning contexts.

The learning contexts consisted of the subjects' experiences of English learning in the classroom and their out-of-class contact with English. Classroom was the most important learning context for the subjects because their experiences with English mainly took place here. How much they could learn was assumed to be related to their attitudes toward English learning and toward the learning environment. The subjects' out-of-class contact with English was assumed to be related to their motives, both social- and educational-psychological, for learning English. Therefore, the results described in this chapter will not only answer the questions of how the subjects have learned English in the classroom and how they have made out-of-class contact with English (i.e., answer sub-questions 1 to 4. For details, see p.67), but also provide bases for the interpretations of the relationships between the subjects' learning experiences inside and outside the classroom and their individual characteristics in relation to English learning, such as attitude and motivation.

Chapter 7 will describe the results for the subjects' individual characteristics, which will be followed by the description of the results for the subjects' learning outcomes in Chapter 8. Chapter 9 will then interpret the nine relationships of the variables on the basis of the results described in the previous three chapters.

### **6.1 Results for subjects' experiences of English learning in the classroom**

Three aspects of the subjects' experiences of English learning in the classroom were investigated, viz. types of knowledge about English taught during the instruction, types of practice in English which the subjects were required to do during classes, and classroom interactions. The method of investigation was a combination of observing classes and audiotaping class proceedings. Altogether 543 hours of recording were obtained. The recorded classroom proceedings were then orthographically transcribed.

Due to the space and time restrictions in a report such as this, a complete detailed

analysis of the observational data is not possible. Therefore, it is impossible to report the results of observation in terms of the exact number of times each type of learning activity occurred during classes, or in terms of the actual English produced by the teachers and the subjects during classes. Rather, the results will be reported on the basis of the investigator's impression of classroom observation. Since the investigator has observed almost every English class during the data collection period, and the recorded classroom proceedings have all been transcribed, it is believed that such an impressionistic description of the observational data can still provide an accurate picture of the subjects' experiences of learning English in the classroom during the data collection period.

Before the results are presented, the number of teacher(s) who taught each course, the native languages of the teachers, and the teaching materials adopted in each course are summarised because these were, to a certain extent, related to the ways in which English was taught in the classroom.

| <p style="text-align: center;"><i>Table 5</i></p> <p style="text-align: center;"><i>A Summary of Number of Teachers for Each Course, Native Languages of Teachers, and Teaching Materials Adopted for Each Course during Three Semesters of English Learning at the University</i></p> |    |                 |  |
|--|----|-----------------|--|
| Course   | NT | Native Language | Teaching Materials   |
| BE   | 3  | Chinese         | <u>College English</u> (Hu et al. 1983) Books 1 & 2. <u>College English</u> (Yang & Xu, 1987) Book 3   |
| ER   | 3  | Chinese         | on-spot-materials, which consisted of two short articles, at each class session. long-term materials, which consisted of 6 to 7 simplified English readers and 1 to 2 textbooks, in each semester.                       |
| EL   | 2  | Chinese         | <u>Step by Step</u> (Zhang et al. 1983) Books 1 & 2. aural materials such as "Stories for Reproduction", "Preliminary Test", "American Anecdotes". "Listening Targets", TOEFL (listening section), VOA & BBC News        |
| OE   | 3  | English         | "Around Town", visual materials (i.e., news, dramas, or stories with accompanying video), short articles on topics such as sports and education, and aural materials (e.g., songs, dialogues).                           |
| EG   | 1  | Chinese         | 15 topics on English grammar, viz. noun, article, pronoun, numeral, verb, auxiliary, subjunctive, infinitive, "-ing" form, adjective, adverb preposition, tag question, subject of sentence, subject-predicate agreement |

Legend: NT = number of teachers  
 BE = basic English  
 ER = English Reading  
 EL = English Listening  
 OE = oral English  
 EG = English Grammar

It can be seen from Table 5 that (i) the arrangement of courses was intended not only to provide the subjects with knowledge about English, as in Basic English and English Grammar, but also to enable the subjects to develop in three skills of

language use, viz. reading, listening and speaking, as in English Reading, English Listening and Oral English, (ii) most of the teachers are native speakers of Chinese, and (iii) the teaching materials adopted were varied.

*i) Types of knowledge about English taught during the instruction*

The results in this respect will be presented under each of the five courses which the subjects attended in the period of observation. Under each course, the main types of knowledge about English taught in the course will first be reported. This is then followed by a description of the manner in which the types of knowledge were taught during the instruction. Here the types of knowledge about English had three aspects. The first was the linguistic aspect, referring to the grammar and vocabulary of the English language. The second was the cultural aspect, which included facts about life, history, culture and society of the major English-speaking countries such as England and United States. The third was the semantic aspect, meaning content of the texts which the subjects were required to use during classes.

*Basic English (BE)* The three teachers who taught this course were all native speakers of Chinese. The focus of the instruction was invariably on linguistic and semantic aspects of the texts. They included:

- lexical items and idiomatic expressions listed at the end of texts or considered by the teachers to be difficult for the subjects,
- grammatical rules discussed in the texts, and syntactic structures of the sentences which the teachers considered to be difficult for the subjects, and
- general ideas of the texts, especially those studied in the second and the third semesters.

When explaining lexical items and idiomatic expressions, the teachers invariably adopted the following method: first, a synonymous word or expression was provided in English; then, the shades of difference between the instructed item and the synonymous word or expression were elaborated upon in Chinese; finally, some examples illustrating the usage of the instructed item were orally or orthographically provided.

Explanations of grammatical structures of sentences were most often made in Chinese. The few English words (mostly grammatical terms) and sentences employed were invariably followed by their Chinese counterparts.

In the second and the third semesters, the texts became longer and more difficult in terms of the content and the language used. The teachers thus spent a lot of time (mostly four class periods) explaining the content of texts. The explanation usually was made in the following manner: the teacher read aloud the sentence to be

explained in English, and then, the meaning of the sentence was provided in Chinese.

*English Reading (ER)* The three teachers who taught this course were also native speakers of Chinese. The types of knowledge taught covered all three aspects, viz. the linguistic aspect, which consisted of syntactic structures, lexical items and idiomatic expressions; the cultural aspect, which comprised background knowledge about the history, culture, and society of English-speaking countries; and the semantic aspect, i.e., the content of the texts. But the focus of instruction was on the linguistic and semantic aspects.

The three teachers differed in their methods of instruction. The first teacher generally used English during the instruction. Chinese was also employed, but only in two situations. The first was when the teacher felt that the meanings of lexical items or expressions could not be clearly expressed in English. The second was when the teacher found that the English used was not understood to the extent she had expected.

The second teacher seldom used English during instruction. She usually read aloud the whole text sentence by sentence, and stopped at each sentence to explain in Chinese (i) the lexical item(s) and idiomatic expression(s) which she felt would be difficult for the subjects, and (ii) the general idea of the sentence.

The third teacher also tended to read aloud a text sentence by sentence. But he did not stop at each sentence. Instead, he stopped to explain only the lexical items, expressions, syntactic structures and the relevant background knowledge which he thought that the subjects might not know. The explanation was generally in Chinese. Sometimes, English was also used, but invariably followed by its Chinese counterpart. All three teachers never cited examples to illustrate the usage of the linguistic features they explained.

*English Listening (EL)* Instruction in this course invariably was carried out when the teachers, all native speakers of Chinese, were checking the subjects' understanding of the aural materials which were presented to the subjects at the beginning of classes. The instruction in this course also covered all three aspects of the knowledge. More specifically, they were:

- the content of the aural materials which the subjects listened to (semantic aspect),
- the meaning of lexical items, idiomatic expressions or syntactic structures, and syntactic structures, lexical items and expressions represented by certain sounds. (Sometimes, the subjects could not recognise linguistic features from sounds even though they might possess the relevant knowledge) (linguistic aspect), and

- the background knowledge related to the content (cultural aspect),

Quite often, the teachers concentrated on making sure that the subjects understood the first two aspects of the aural materials. Explanations of the content, background knowledge, and meaning of lexical items, idiomatic expressions or syntactic structures were invariably made in Chinese. English was used only when the teacher repeated specific syntactic structures, lexical items and expressions which the subjects could not recognise when listening to the aural materials.

*Oral English (OE)* This was the only course taught by native speakers of English. The course was supposed to provide the subjects with opportunities to communicate with native speakers of English. However, instruction invariably took up a large portion of class periods.

The focus of instruction was on the linguistic and the cultural aspects of knowledge about English. The linguistic aspect consisted of lexical items and idiomatic expressions from the materials introduced to the subjects. However, unlike the Chinese teachers, the three English teachers never explained grammatical rules or syntactic structures of sentences to the subjects. This was the major difference between the Chinese teachers and the English teachers in terms of content of language instruction. During the instruction, the teachers also talked a lot about the different aspects of life and traditions in England and the United States. For whatever reason, the teachers appeared to find difficulty in explaining the content of the course materials to the subjects. They mostly resorted to the explanation of linguistic items and expressions in the hope that the subjects could understand the message.

The teacher who taught in the first and the second semester usually adopted the following method during the instruction. At the beginning of the class, he would write some lexical items and expressions on the blackboard. The lexical items and expressions were all from the materials used in the course. Then, the teacher would read them aloud one by one. After reading aloud each one, the teacher would explain its meaning and offer background knowledge relating to this lexical item or expression. The two teachers who taught in the third semester also followed a similar pattern in their instruction: putting some lexical items or expressions on the blackboard at the beginning of the class, reading aloud each of them, and explaining its meaning. The explanation of lexical items and expressions was also followed by the introduction of background knowledge related to the linguistic features explained.

*English Grammar (EG)* This course was offered only in the third semester. As mentioned in Table 5 (p.95), the focus of the instruction was on 15 topics of English

grammar. However, instead of teaching grammatical rules, the teacher actually talked only about the exceptions to rules. The teacher might have assumed that the subjects had already learned the rules in the first two semesters.

Invariably, the instruction consisted of two major components: citation of examples to illustrate exceptions to rules, and detailed explanation of the examples. The medium of instruction basically was a combination of English and Chinese. That is, the teacher first employed English, which often was followed immediately by its Chinese translation.

*ii) Types of practice in English which the subjects were required to do during classes*

*Basic English (BE)* The opportunities which the subjects had to practise English during the classes varied with the teachers and the textbooks. The first teacher taught for six weeks in the first semester. The teaching materials adopted were Lesson 1 to Lesson 7 of "College English" Book 1. The focus of these seven lessons was on three aspects of English: phonetics, sentence patterns, and expressions commonly used in daily life. Therefore, these formed the bases of the types of practice which the subjects were required to do during classes. More particularly, these types of practice were:

- taking dictation (including phonetic transcription of certain lexical items and orthographic transcription of lexical items) given by the teacher,
- reading aloud lists of lexical items, phrases, and sentences arranged according to certain sounds in English (i.e., pronunciation practice),
- reading aloud lists of lexical items attached to each lesson,
- reading aloud the texts, which were in the form of dialogue, and
- making own dialogue according to situations designed by the teacher; the requirements of the situations were such that the subjects had to use the sentence patterns and expressions in the texts which they had just learned.

The second teacher taught this course to the subjects in all three semesters (i.e., 10 weeks in the first semester, the whole second semester, and 14 weeks in the third semester). The teaching materials covered the three books of College English. The subjects had more opportunities to practise in class when they were learning Books 1 and 2 than when they were learning Book 3. This was because in Books 1 and 2, every text, except the first four in Book 1, was preceded by a section called "Pattern Drills", in which there were three or four dialogues, each focusing on a certain English sentence pattern. The teacher often spent two class periods (100 minutes) having the subjects read aloud the drills. Other opportunities for practice when Books 1 and 2 were taught included doing the vocabulary and grammar exercises

attached to each text. These exercises were designed in such a way that the subjects had to use the lexical items, phrases and expressions, and grammatical rules dealt with the text in order to complete the exercises correctly.

The type of practice which the subjects were required to do when they were learning Book 3 only concerned the lexical items, phrases and expressions dealt with in the texts. More specifically, the subjects were usually required to (i) provide derivatives for word roots, (ii) fill in blanks in sentences, using the vocabulary which they had learned in the texts, and (iii) translate Chinese sentences into English, using the words and expressions which they had learned in the texts. The subjects were given few opportunities to speak English during the class.

There were two other types of practice which were not subject to the change in textbooks when the subjects were taught by the second teacher. One was a so-called "duty report", which the subjects took turns to make at the beginning of each class session (usually two class periods). Such "duty reports" were very short, usually lasting two to three minutes. In addition, they were prepared and repeated in the presence of the whole class. The contents of the reports varied greatly, ranging from comments on weather to jokes. The other type was a dictation of the lexical items in a new text. The purpose, according to the teacher, was to check whether or not the subjects had previewed the text.

The third teacher taught the subjects for only six weeks in the third semester. The teaching materials were three lessons in Book 3. The subjects were required to do the following types of practice during classes:

- taking dictation (lexical items) given by the teacher before a new text was taught,
- presenting a "duty report" at the beginning of each class session, and
- doing vocabulary exercises attached to each text.

*English Reading (ER)* Two types of practice were common during the classes of this course. The first type was reading the materials handed out by the teachers at the beginning of a class session (two class periods), which generally consisted of two short articles. The materials will be referred to as on-the-spot materials. The second type was doing exercises attached to each short article in the reading materials. The exercises were invariably in the form of multiple-choice questions about the content of the article and about the lexical items used in the article.

The three teachers also required the subjects to do other types of practice. The first teacher sometimes dictated to the subjects some lexical items and expressions from the on-the-spot materials. The second teacher gave this type dictation more often. In addition, she would designate some lexical items from the on-the-spot materials for the subjects to memorise. The designated vocabulary was also part of



the final examination. The third teacher did not give dictation. But at every class session, he would require the subjects to read aloud passages from "long-term" materials, which consisted of English readers and textbooks assigned by the teacher for the subjects to read out of class during the semester, and to do vocabulary exercises attached to the articles and short stories in the "long-term" English readers and textbooks.

*English Listening (EL)* The opportunities which the subjects were given to practise in this course can be classified into two categories. One was the comprehension practice, i.e., the subjects were required to indicate their understanding of both linguistic and semantic aspects of the aural materials which they had just listened to. This type of practice consisted of the following activities:

- taking down sentences or paragraphs from the teacher's dictation,
- doing multiple-choice exercises in relation to specific linguistic items, or to the contents of aural materials, and
- answering orally questions about the contents of aural materials.

The other type of practice presupposed the subjects' abilities not only to comprehend the contents of aural materials, but also to reproduce the contents in their own words in English. This type of practice was the story retelling, i.e., the subjects were required, after listening to a short story, to retell its content in their own words. The subjects actually did not get many opportunities to practise story retelling, because the teacher had to teach more than forty students (two classes) at the same time.

*Oral English (OE)* The only type of practice which the subjects had opportunities to do in the first and the second semesters was reading aloud the dialogues in the textbook "Around Town". More particularly, the teacher read aloud the dialogue sentence by sentence. At the end of each sentence, the teacher would stop for the subjects to repeat the sentence which the teacher had just read. The whole dialogue was followed in this manner two or three times. Then, the subjects were required to read aloud by themselves. The subjects appeared to get tired of this type of practice from the second semester. Sometimes, the subjects even would not open their mouths when the teacher was leading them in reading aloud the dialogue. The teacher was not satisfied with the subjects' behaviours during the class. Several times he told the investigator that the class was "really dead". On the other hand, the subjects did not think highly of the way in which the class was conducted. Some subjects told the researcher that the teacher talked too much during the class: others said that the practice was too simple and thus soon became very dull.

The two teachers in the third semester provided the subjects with many

opportunities to practise in the class. The class practice mainly involved three skills of language use: reading, listening, and speaking.

The reading practice was often on-the-spot reading of the short articles handed out during the class. The listening practice consisted of watching video tapes or listening to audio tapes. The speaking practice comprised group discussion of a certain topic, individual oral presentation on a certain topic in front of the whole class, and singing of English songs. The individual oral presentation was also a prepared oral practice. That is, the subjects had to write down what they wanted to say first before reading it in front of the class. In addition to class practice, the subjects were also required to write a composition on a certain topic every week. The composition was written outside the classroom.

A salient characteristic of oral practice during Oral English classes was that the subjects could get very little time for oral practice individually. There appeared to be two reasons for this. First, the 20 subjects attended the class at the same time, but there were only about two class hours in the first two semesters, and three in the third. Second, the teachers spent about half of the class hours explaining meanings of lexical items, or talking about traditions and cultures of foreign countries. Therefore, the size of the class, the limited class hours, and the amount of time spent on teacher talk made it impossible for the teachers to provide each subject with much time for oral practice.

*English Grammar (EG)* The subjects were not required to do much grammar practice during the class. Out of 17 class sessions (34 class periods), the teacher allocated only 5 class sessions (10 class periods) for grammar practice.

The grammar practice generally came from two sources. One was the grammar sections of the exercises in Book 3 of "College English". The other was the grammar exercises compiled by the teacher. The contents of the exercises were related to the topics of grammar dealt with during instruction. The teacher would ask the subjects one by one to give answers orally. The subjects had to follow rules of grammar (even though these rules were never taught during instruction), or exceptions to the rules, in order to do the exercises correctly. The answers were all in English. However, the subjects did not get much chance to do the exercises, because the teacher had to teach more than forty students (two classes) at the same time.

### *iii) Classroom interactions*

The classroom interactions observed mostly consisted of teacher-subject interaction. Only a few instances of subject-subject interaction were observed during the third semester in Oral English classes. Since the subject-subject interactions were

few in number, and the language used during the interaction was mainly Chinese, they will not be considered in this section.

The following aspects of teacher-subject classroom interaction will be discussed in the section:

- ways in which the interaction was initiated, by the teachers or the subjects,
- ways in which the subjects' responses were solicited, individually or collectively,
- types of question asked by the teacher,
- ways in which the subjects responded to the question,
- language used when the subjects were answering the question, English or Chinese, and
- feedback by the teacher to the subjects' responses.

*Basic English (BE)* The interactions in this course were generally initiated by the teachers. Different teachers had different ways of asking questions in the class. The first teacher tended to direct questions to individual subjects. The second and the third teachers often directed questions to the subjects collectively.

The questions of the teachers generally concerned the contents of the texts or the meaning of linguistic features such as syntactic structure, lexical item and idiomatic expression, and so they generally belonged in the so-called "display" question (Long and Sato, 1983), which refers to the question whose answer the teacher already knows.

The subjects were usually passive to the teachers' questions. When a question was directed to the whole class, most of the subjects would remain silent. Only a few might murmur their answers. When a question was directed to an individual subject, the subject called would look into the textbook to find the answer, and utter it in a low voice. Only in rare occasions did the subjects argue with teachers on certain grammatical issues.

The language used by a subject to answer a question appeared to depend on the nature of the question. If the question was about the content of the text, the subject would use English in the answer. However, the English used was usually a word-for-word repetition of the part of text that answered the teacher's question. If the question required comments by the subject, the subject would use Chinese.

Teachers' feedbacks to the subjects' responses were usually one of the following three types: (i) confirmation of the subjects' response, (ii) evaluation of the subjects' performance, and (iii) further explanation of the subjects' erroneous linguistic item after it was pointed out. The corrections were generally implied in (ii) and (iii) types of feedback. The teachers seldom provided corrections explicitly. All three teachers invariably provided their answers in Chinese, except when quoting directly from the texts.

*English Reading (ER)* The interactions in this course were initiated both by the teachers and by the subjects. When the course was taught by the first teacher, the interactions were invariably initiated by the teacher. The second teacher often required the subjects to raise questions about the on-the-spot articles or long-term materials, and so the subjects had to initiate interactions. The interactions were again invariably initiated by the teacher when the course was taught by the third teacher.

The first teacher often asked the subjects collectively. Since the second teacher tended to require the subjects to raise questions, the interactions were mainly on individual basis. The third teacher directed questions to the subjects both individually and collectively.

The types of question which the three teachers asked generally concerned both the contents and the linguistic features of the teaching materials. Thus, the questions generally belonged in "display" questions, because teachers knew the answers.

As in Basic English classes, the subjects would remain silent when the questions were directed to the whole class, although sometimes some subjects might give their responses in low voice. The subjects would usually quote teaching materials when they were required to answer questions individually. If answers could not readily be found in teaching materials, the subjects would stand there in silence, appearing to wait for the teachers to provide answers.

The subjects seldom used their own words to answer questions in English. The English used was generally a word-for-word repetition of the part of the teaching materials that answered the question. The subjects invariably used Chinese to initiate the interaction when they were required by the second teacher to ask questions about the teaching materials.

The first teacher's feedback to a subject's responses usually consisted of an explicit confirmation or rejection of the response, which was followed by repetition of the subject's response in the case of confirmation, or by provision of the answer in the case of rejection. The answer was provided usually in English, followed by its Chinese translation. The second teacher usually gave implicit feedback. After a subject gave responses, this teacher usually did not indicate explicitly whether the response was right or wrong. Instead, she would either repeat the subject's response or provide her own answer to the questions. Thus, the subject was left to judge by him/herself whether the response was accepted or not. The third teacher did not indicate explicitly either whether he agreed with a subject's responses or not. If he agreed, he would ask the next question. If he did not agree, he would ask another subject to answer the same question. This would continue until he obtained what he considered to be the correct responses from the subjects. The second and the third teachers invariably provided their answers in Chinese, except when quoting directly from the teaching materials.

*English Listening (EL)* The interactions in this course were invariably initiated by the teachers. Since the communication system in the laboratory was such that only one-to-one interaction was allowed, it was impossible for teachers to direct questions to the subjects as a group.

The majority of the interactions took place when the teachers were checking the subjects' understanding of linguistic features and contents of the aural materials which they had just listened to. Obviously, the questions asked were mainly "display" questions.

The subjects usually remained silent, or simply said "I am sorry, I don't know" when they did not know the answers. Their answers to questions generally consisted of repetitions of the words and sentences from the aural materials. The subjects appeared to have difficulty in understanding the aural materials chosen for the teaching materials, because they usually could neither recognise linguistic features from sounds nor retell the contents of the materials. Therefore, teachers' feedback mostly comprised elaboration upon the subjects' responses. Elaborations usually were made in Chinese, except the actual words and sentences from the aural materials.

*Oral English (OE)* The subjects never initiated interaction during classes when they were taught by the first teacher. The teacher seldom directed questions to individual subjects. The questions generally were about meanings of lexical items which were related to life, culture and tradition of Western countries. It was obvious that these questions were all "display" questions, and that they were too difficult for the subjects. The subjects generally remained silent on such occasions no matter how many times the teacher repeated the questions. On the other hand, the teacher seldom shifted questions to individual subjects in such situations. Instead, he would give up asking questions and provide answers to his own questions.

The subjects again never initiated interactions when they were taught by the two teachers in the third semester. The teachers generally directed their questions to individual subjects. The questions usually were of two types. One was about the meanings of lexical items and idiomatic expressions in the teaching materials. The other was about the lives, cultures, and traditions in both China and Western countries. The subjects usually appeared quite willing to answer questions, because they seldom remained silent after they were called. Since the teachers did not speak Chinese, the subjects had to answer the questions in English, which invariably were short, ranging from one or two lexical items to a few sentences. The teachers usually did not indicate explicitly whether they agreed or disagreed with a subject's response. They often elaborated on the subject's response after the subject finished

his/her answer. Only from their elaboration could one know whether they agreed or disagreed with the subject. The correction of a subject's mistake was also implied in their elaboration.

*English Grammar (EG)* The subjects never attempted to initiate interactions when attending Grammar classes. The teacher usually directed questions to individual subjects. The questions were about grammatical rules (though they were not taught during the instruction) or exceptions to grammatical rules, or about meanings of the examples cited by the teacher to illustrate exceptions to grammatical rules. The subjects were not attentive during classes, because quite often they even did not know what the teacher's questions were. In such situations, the teacher had to repeat the questions. The subjects would remain silent if they did not know the answers. When they gave their responses, they tried not to use English if they could. The teacher would confirm explicitly when she considered the response to be correct, and then repeated the response. If she considered the response to be incorrect, she would change the wording of the question, and then direct it to the same subject. If a subject failed to provide a satisfactory answer, the teacher would direct the question to another subject. The teacher usually would repeat the above process until she obtained the satisfactory answer from the subject. However, sometimes she just gave up asking the question, and told the subject the answer. Chinese was often used to explain answers to the subjects.

#### *iv) Summary of subjects' English learning experiences in the classroom*

The subjects were required to attend five courses in the three semesters of English learning at the University. The five courses were aimed at not only providing the subjects with the knowledge of the English language, but also enabling them to develop their skills in reading, listening, and speaking. All the teachers, except those teaching Oral English course, were native speakers of Chinese.

Three aspects were identified from the types of knowledge taught during classroom instruction, viz. linguistic, semantic and cultural. However, linguistic aspect was the focus of all five courses, especially in Basic English and English Grammar classes. The teachers in English Reading, English Listening and Oral English classes also focused on the linguistic aspect of the knowledge during the instruction. Instruction took up most of the class time in all courses. Regarding the manner in which the knowledge was taught, the Chinese teachers of English appeared to have one thing in common, that is, Chinese was invariably used to compensate for the inadequacy of their English, even though some teachers used

English as the main medium of instruction. Since four out of the five courses were taught by Chinese teachers, it can be assumed that most of the time, the subjects did not have to try to understand the teachers' instruction. This was because they could wait for the teachers' Chinese interpretation of the instruction.

The English practice required of the subjects during classes mainly covered three areas of skill, viz. reading, listening and speaking. There was not much writing practice in the class. The types of practice were basically based on the textbooks or the teaching materials. In other words, the subjects had to use whatever they learned (i.e., grammatical rules, exceptions to the rules, syntactic structures, lexical items or expressions) from the texts or materials in order to do the practice correctly. Practice in speaking has been assumed to be important for the development of oral ability because it should help the subjects to develop their procedural knowledge, which, in turn, would give the subjects more automatic access to their internal representations of English knowledge during oral production (See 4.4, p.65). However, the subjects were not given many opportunities to speak English during classes. Much of the speaking practice was mechanical, such as reading aloud a text, or prepared, such as making a "duty report" and making an oral presentation in front of the class. In addition, there was no interaction during the speaking practice. That is, it was always a matter of subjects speaking and teachers listening. Therefore, the subjects had no opportunity to engage in natural oral communication during classes.

The majority of interactions in the class belonged in teacher-subject interaction. The subjects seldom initiated interactions. Even when they did, it was at the request of the teacher. Therefore, the class was dominated by the teachers. The teachers differed in their habits of soliciting responses from the subjects. Some tended to direct questions to the subjects as a group, but others often asked questions on individual basis. The majority of the questions were "display" questions, i.e., the teachers already knew the answers to the questions. The subjects usually remained silent or spoke in low voice when questions were directed to the whole class. When they were asked individually to answer questions, they tended to quote directly from their textbooks and teaching materials. The subjects resorted to Chinese whenever they could in answering the teachers' questions. The teachers could be implicit or explicit in indicating whether they agreed or disagreed with the subjects' responses to questions, but when they were providing answers or corrections, they were usually implicit. The Chinese teachers often used Chinese to provide answers or corrections.

To conclude, the subjects' experiences of English learning in this particular classroom exhibited the following salient characteristics.

(i) A large amount of knowledge about English was taught during instruction, which took up most of the class time in all five courses. Linguistic and semantic aspects of the knowledge were the focus of instruction for most courses.

(ii) In most courses, the subjects did not have to make efforts to understand the English used by the teachers during the instruction and the feedback provided to

their responses. This was so because all the English used was followed by Chinese interpretations.

(iii) Although the subjects were supposed to develop their English ability in three areas of skill, viz. listening, speaking, and reading, the subjects were actually given fewer opportunities to speak than to listen and to read. This was because even in Oral English class, a course supposed to provide the subjects with opportunities to speak, instruction took up most of the time.

(iv) The subjects had no opportunity to engage in a natural two-way oral English communication in the classroom. The few chances of oral practice were all mechanical and prepared in nature, and the teacher-subject interaction was invariably an one-way interaction.

(v) The subjects were very passive during classes. Generally, they never answered questions unless they were specifically asked. In addition, they avoided using English when they were answering questions.

## 6.2 *Results for subjects' out-of-class contact with English*

The previous section has described a part of the subjects' English learning experiences in this particular learning environment, i.e., English learning inside the classroom. This section will describe another part of their English learning experiences, i.e., out-of-class contact with English. The description will provide three types of information on the subjects' out-of-class English learning experiences: (i) the types of contact with English, (ii) amount of contact at each of the three semesters, and (iii) changes in the amount of contact over the three semesters. The section begins with a brief description of the instrument used to investigate the types of contact. Then a description of the results for the investigation will follow.

### *(i) Description of the Language Contact Profile Questionnaire*

The Language Contact Profile Questionnaire (LCPQ), which contained 10 questions, was employed to investigate the subjects' out-of-class contact with English. This questionnaire was administered to the subjects three times, one at the end of each semester. Therefore, the subjects' responses at each administration of the questionnaire represented their out-of-class contact with English in the preceding semester.

The 10 questions of the questionnaire covered three general categories of out-of-class contact. First category consisted of six sub-types of contact summarised from the subjects' self-reports (See 5.2 ii, p.76). These six sub-types of contact were: reading aloud texts, memorising new vocabulary, listening to aural materials assigned by teachers or English broadcast, reading materials assigned by teachers, leisured reading of English novels, newspapers and magazines, and doing teachers'



written assignments. Six items were written to investigate these six sub-types of contact, one for each sub-type. Details of all items are in Appendix 3. The following is an example.

Circle the average number of hours each day you read texts aloud.  
0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 5.5 6 6.5 7 7.5 8 8.5 9

The subjects' responses were scored using the scoring procedures adopted in Day (1984), i.e., the scores were allocated by dividing the time reported by two.

Second category of out-of-class contact with English comprised the subjects' preference for listening to, reading and speaking English or Chinese when they had a choice. Three items dealt with this category of out-of-class contact. Following is an example.

If you had a choice between listening to Chinese broadcasts or listening to English broadcasts, you  
a. preferred Chinese broadcasts  
b. preferred English broadcasts  
c. had no preference

The responses were sorted as a nominal variable and percentage of the subjects was calculated for each type of response. However, in the examination of changes in preference over time, the responses were dichotomised as "preference for English" and "no preference for English" (i.e., consisting of responses "a" and "c"). This was because the purpose of investigating the changes was to see whether the subjects' preference for English differed significantly during the three semesters. The Cochran Q test was used in testing the difference of responses in the three tests.

Third category of out-of-class contact with English was the subjects' participation in various types of out-of-class activity that helped to improve their levels of English proficiency. The question that dealt with this category of contact was

Did you spend time trying to improve your level of English proficiency outside the classroom? If yes, list the activities that you did outside the classroom that helped you learn English (For example, reviewing the notes you kept during the class, keeping diaries or writing composition, speaking in English, studying grammar or vocabulary).

Two types of the activity were further distinguished, viz. non-oral activity and oral activity. The subjects were scored differently for participating in these two types of the activity. For the participation in non-oral activity, the subjects were scored according to the number of activities. That is, a score of 1 represented one type of activity in which they participated, a score of 2 represented two types of activity in which they participated, etc. The subjects' indications of participation or no participation in oral activity were also sorted as a nominal variable and the percentage of subjects was calculated for each type of response.

ii) *Amount of time, and changes in amount of time, subjects spent on six sub-types of out-of-class contact with English (LCPQ data)*

Amount of time spent on six sub-types of contact Table 6 displays the means and standard deviations of the scores which the subjects obtained for the three administrations of LCPQ for the six sub-types of contact from their self-reports (See Appendix 9, for the raw scores each subject obtained for the six types of contact).

| Table 6  |        |      |        |      |        |      |
|--|--------|------|--------|------|--------|------|
| <i>Means and Standard Deviations of the Scores Which Subjects as a Group Obtained for Each of Six Sub-Types of Contact from Their Self-Reports (LCPQ data)</i> |        |      |        |      |        |      |
| Sub-type of Contact  | Test 1 |      | Test 2 |      | Test 3 |      |
|  | Mean   | SD   | Mean   | SD   | Mean   | SD   |
| Reading Aloud  | 0.42   | 0.16 | 0.36   | 0.17 | 0.33   | 0.14 |
| Memo Words   | 0.38   | 0.20 | 0.51   | 0.35 | 0.48   | 0.29 |
| Tape Listening   | 0.50   | 0.37 | 0.43   | 0.33 | 0.41   | 0.22 |
| TM Reading   | 0.93   | 0.50 | 0.95   | 0.94 | 1.08   | 0.69 |
| Leisure Reading  | 0.61   | 0.39 | 0.55   | 0.37 | 0.50   | 0.49 |
| Assignment   | 0.50   | 0.36 | 0.51   | 0.35 | 0.73   | 0.63 |
| Total  | 3.36   |      | 3.33   |      | 3.56   |      |

Legend: SD = standard deviation  
 Reading Aloud = Reading aloud texts under instruction  
 Memo Words = memorising vocabulary  
 Tape Listening = Listening to aural materials assigned by teachers and to English broadcast  
 TM Reading = reading materials assigned by teachers  
 Leisure Reading = Leisure reading of English novels, newspapers and magazines  
 Assignment = doing teachers' written assignments  
 Total = the sum of the mean for each of the six types of contact

The Table shows that the subjects consistently scored the highest on Reading Materials Assigned by Teachers (i.e., 0.93, 0.95, and 1.08). Since a higher score suggests more time, the above figures indicate that the subjects spent more time each day (between 1.9 and 2.2 hours) on reading materials assigned by teachers than they did on each of the other five types of contact. The time spent on the other five sub-types of contact was more varied. Generally, however, the subjects spent more time each day on leisure reading and doing teachers' written assignments than on reading aloud texts, memorising vocabulary, and listening to aural materials assigned by teachers or to English broadcasts. This was indicated by the general higher mean

scores for Leisure Reading and Assignments than those for Reading Aloud, Memo Words (memorising vocabulary), and Tape Listening. Thus, the subjects appeared to have spent most of their after-class hours on their homework (i.e., reading materials assigned by teachers and doing teachers' written assignments) and on reading (i.e., leisure reading of English novels, newspapers, and magazines). Less time was spent on reading aloud, listening, and memorising vocabulary.

Individually, the subjects appeared to have differed greatly in the amount of time spent on each sub-type of contact. This was indicated by high standard deviation values, which invariably amount to about one-half of mean scores. Two were about the same as mean scores, viz. Mean 0.95, SD 0.94 (TM Reading, Time 2), and Mean 0.50, SD 0.49 (Leisure Reading, Time 3).

Despite the variation in the time spent on the individual sub-types of contact, the total amount of time which subjects spent on all six sub-types of contact in each of the three semesters at the University was basically equivalent, as indicated by similar sums of the mean scores, viz. 3.36, 3.33, and 3.56. In other words, subjects spent an average of 6.7-7.1 hours each day on the six sub-types of out-of-class contact, though individually the amount of time spent differed greatly.

Changes in amount of time spent on six sub-types of out-of-class contact with English Over the three tests, the mean scores for TM Reading (reading materials assigned by teachers) and for Assignments (doing teachers' written assignments) increased, but those for Reading Aloud, Tape Listening, and Leisure Reading decreased. Change in mean scores for Memo Words (memorising vocabulary) followed a low-higher-lower pattern. To determine if the changes in score for each sub-type of contact were statistically significant, ANOVA (one factor, repeated measure) was applied. For details of the analysis, see Appendix 10.

No significant difference was found, indicating that there was no overall change (averaged across the group) in the amount of time spent on all 6 sub-types of contact during the three semesters. Such a judgment was consistent with similarity of the three totals of the mean scores, viz. 3.36, 3.33, and 3.56.

*iii) Subjects' preferences, and changes in their preferences, for listening, speaking and reading English or Chinese when given choice*

Subjects' preference indications for the three tests Table 7 presents the percentages of subjects indicating the three types of response to questions concerning their preferences for listening, speaking and reading English or Chinese for the three tests. The details of each subject's indications in the three tests are displayed in Appendix 11.

| <p style="text-align: center;"><i>Table 7</i></p> <p style="text-align: center;"><i>Percentages of Subjects Indicating Preferences for Listening, Reading and Speaking English or Chinese at Three Tests</i></p> |     |     |     |     |     |     |     |     |     |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| TR   | L1  | L2  | L3  | S1  | S2  | S3  | R1  | R2  | R3  |
| 0  | 30% | 25% | 5%  | 25% | 35% | 20% | 15% | 25% | 15% |
| 1  | 35% | 30% | 25% | 40% | 25% | 35% | 40% | 40% | 45% |
| 2  | 35% | 45% | 70% | 35% | 40% | 45% | 45% | 35% | 40% |

Legend: TR = type of response  
 L1, 2, etc. = listening, first test, second test, etc.  
 R1, 2, etc. = reading, first test, second test, etc.  
 S1, 2, etc. = speaking, first test, second test, etc.  
 0 = no preference  
 1 = preference for Chinese  
 2 = preference for English

The Table shows that the subjects' indications of preference were quite mixed. In the first test, the subjects indicating preference for listening to English was the same in proportion as those indicating preference for listening to Chinese. More subjects (45%) indicated preference for reading English than those indicating preference for reading Chinese (40%), but fewer subjects (35%) indicated preference for speaking English than those indicating preference for speaking Chinese (40%). In the second test, the subjects indicating preference for English in listening and speaking were more than those indicating preference for Chinese. However, those indicating preference for English in reading were fewer in number than those indicating preference for Chinese. In the third test, the situation was similar to that in the second test. The proportion of the subjects indicating no preference was mostly lower than that of those indicating a preference, except in Speaking (Test 2).

Changes in subjects' preference indications over time It was clear from Table 7 above that the proportions of the subjects indicating a preference for English or no preference for English (i.e., indicating preference for Chinese or no preference) in all three aspects of the contact underwent a lot of changes over the three tests.

To determine if the number of the subjects indicating preference for English differed significantly in the three tests, the Cochran Q test was applied. The test was chosen because the data were for more than two related groups ( $k = 3$ ), and could be dichotomised as "preference for English" and "no preference for English". Values of Q were calculated by following the procedure outlined in Siegel (1956). Significance of Q was determined by consulting Table C (Siegel, 1956: 249).

The Cochran Q test was performed three times, one for each of the three aspects of the contact, viz. listening, speaking and reading. The results of the tests are displayed in Table 8.

| <p style="text-align: center;"><i>Table 8</i></p> <p style="text-align: center;"><i>Results for the Cochran Q tests for Subjects' Indications of Preference for Listening to, Speaking, and Reading English at Three LCPQ Administrations</i></p> |               |        |
|---|---------------|--------|
| Listening   | Q = 7.09*     | df = 2 |
| Speaking  | Q = 0.60 n.s. | df = 2 |
| Reading   | Q = 0.75 n.s  | df = 2 |

Legend: \* = significant at the level of .05  
 n.s = not significant

A significant difference was found in relation to listening, implying that the proportion of the subjects indicating "preference for English" differed significantly among the three tests. Given the fact that the proportion of the subjects indicating "preference for English" increased over time (35% in the first test, 45% in the second, and 70% in the third), the significant difference suggests that this increase was due to the subjects' real preference for listening to English, rather than to sampling errors.

*iv) Subjects' participation, and changes in participation, in out-of-class activities that helped to improve their levels of English proficiency*

Two sub-types of out-of-class activity were distinguished in the subjects' responses. One consisted of non-oral activities, e.g., the in-depth studying of certain English grammatical rules or lexical items, keeping English dairies, reviewing the main points of the text under instruction, etc. The other is the oral activity, which invariably referred to the English conversation which subjects had with other Chinese students in places such as dormitory and "English Corner". No subject reported having spoken English with native-speakers of English.

The results for the two sub-types of out-of-class activities will be described separately. The subjects' participation, and changes in participation, in non-oral English activities will be dealt with first. This is followed by a description of their participation, and changes in participation, in oral English activity.

Subjects' participation, and changes in participation, in non-oral English activities during the three semesters at the University A subject's participation in non-oral English was measured as the number of activities in which the subject participated outside the classroom. It was found that the highest score obtained in the three tests was 6, and the lowest score was 0. Hence, one can assume an ordinal scale ranging from 0 to 6. The raw scores for each subject are shown in Appendix 12.

To test for changes in the subjects' participation in non-oral English activity over the three semesters, Wilcoxon signed-rank tests were applied to examine differences in the subjects' responses at three pairs of tests, viz. Test 1 and Test 2, Test 2 and Test 3, and Test 1 and Test 3. The direction of the level of significance was not predicted because no assumption had been made of the subjects' change of participation in their out-of-contact with English over time. Significance of T was determined by consulting Table J in the Appendix of Popham and Sirotnik's (1973) "Educational Statistics" (p.392). Results of the tests are presented in Table 9.

| Table 9  |           |            |
|--|-----------|------------|
| <i>Differences between Subjects' Indications of Participation in Non-oral English Activities at Three LCPQ Administrations</i> |           |            |
| NOA (1) NOA (2)  | T = - 4   | (N = 16)** |
| NOA (1) NOA (3)  | T = - 27  | (N = 17)** |
| NOA (2) NOA (3)  | T = + 4.5 | (N = 12)** |

Legend: NOA (1), NOA (2), etc. = non-oral activities at the first, the second, etc. semester  
 T = the smaller sum of like-signed ranks  
 N = the number of matched pairs minus the number of pairs whose d=0.  
 - = sign for the smaller sum of like-signed ranks  
 + = sign for the smaller sum of like-signed ranks  
 \*\* = significant at the level of 0.01 (two-tailed)

Significant differences were found between all three pairs of tests. The three signs for the smaller sum of like-signed ranks, which show the direction of difference, indicate that the subjects generally scored the highest in the first test, followed by the third test. They generally obtained the lowest scores in the second test. This suggests that the subjects were quite active in seeking opportunities outside the classroom to learn more English in the first semester. But in the second semester, their enthusiasm for learning English outside the classroom became weakened. Although in the third semester they became more active than in the second, yet the participation still did not reach the level in the first semester.

Subjects' participation, and changes in participation, in out-of-class oral English activity during three semesters at the University It has been shown that the subjects might participate in more than one type of non-oral English activity. However, all of them participated in only one type of oral English activity, i.e., English conversation among themselves either in dormitory or in "English Corner".

Table 10 displays the percentages of the subjects who indicated participation,

and no participation, in oral English activity at the three tests, administered at the end of each of the three semesters. Details of the subjects' responses are shown in Appendix 13.

| <p style="text-align: center;"><i>Table 10</i></p> <p style="text-align: center;"><i>Percentages of Subjects Who Indicated Participation, and No Participation, in Oral English Activity at the Three LCPQ Administrations</i></p> |        |        |        |
|--|--------|--------|--------|
|  | Test 1 | Test 2 | Test 3 |
| Participation  | 65%    | 25%    | 20%    |
| No participation   | 35%    | 75%    | 80%    |

Sixty-five percent of the subjects took part in oral English activity in the first semester. But in the second semester, the proportion dropped to 25%, and then to 20% in the third semester. Correspondingly, the proportion of no participation rose sharply from 35% in the first semester to 75% in the second semester, and then further to 80% in the third semester.

In order to test for the changes in the subjects' participation in oral English activity over the three semesters, the Cochran Q test was again applied. This was because the data were for more than three related groups ( $k = 3$ ), and were dichotomised as "participation" and "no participation". The value of Q was calculated by following the procedure outlined in Siegel (1956). Significance of Q was determined by consulting Table C (Siegel, 1956: 249).

The result of the test was  $Q = 12.17$ , significant at the level of .01 when  $df = k - 1 = 3 - 1 = 2$ , implying that the participation in oral English activity differed significantly in the three semesters. It has been shown above that the proportion of the subjects indicating participation dropped over time, the significant difference suggests that the enthusiasm which the subjects had for oral English activity fell significantly in the second and the third semesters. Evidence also indicates that subjects were motivated more by some activities than by others.

#### *v) Summary of subjects' out-of-class contact with English*

The subjects' out-of-class contact with English in the three semesters of English learning at the University exhibited the following characteristics:

- The majority of the contact types were non-oral.
- The subjects spent an average of 6.7 to 7.1 hours each day on six sub-types of contact during the three semesters. Of these hours, more time was spent on reading teaching materials and doing teachers' written assignments than on reading aloud, listening, and memorising vocabulary. Individually, however, the subjects differed

greatly in the amount of time spent on each sub-type of contact. There was no significant overall change (averaged across the group) in the amount of time spent on each sub-type of contact.

- The subjects did not show a clear preference for English in speaking and reading. However, their preference for listening to English significantly improved over the 3 semesters.

- The subjects' enthusiasm for non-oral English activities dropped significantly in the second semester. Though in the third semester, they took part in significantly more types of activity than in the second, yet the level of participation in the first semester was not reached.

- The subjects participated significantly less in oral English activity in the second and the third semesters than in the first, suggesting a fall in enthusiasm over speaking English as the learning proceeded.

### 6.3 Overall summary of subjects' English learning contexts

In the previous two sections, the subjects' English learning contexts have been described. The learning contexts consisted of two parts: classroom learning and out-of-class contact with English.

In the classroom, the linguistic and semantic aspects of knowledge about English were the focus of instruction, although the cultural aspect of the target language was also dealt with. Since the instruction generally took up much of the class period, the subjects spent most of the time in the classroom learning knowledge about English. Most of the teachers were native speakers of Chinese, and so the teaching was mainly carried out in a combination of English and Chinese. This has undoubtedly facilitated the subjects' understanding of the instruction. However, it might also have encouraged the subjects' reliance on the teachers' Chinese explanations, and thus reduced the amount of the subjects' exposure to English in the classroom.

The classroom was also characterised by the absence of opportunity for the subjects to engage in a natural two-way oral English communication. All the practice was based on the teaching materials, and did not encourage the creativity of the subjects in their use of English. On the other hand, the subjects did not appear to be interested in involving themselves in class activities. This could be the result of a combination of causes, such as the dominance of the teachers' instruction, and the subjects' lack of confidence in their proficiency in English.

The subjects did not take part in much oral English activity outside the classroom. This was reflected in the fact that the majority of the types of contact was non-oral. These types of contact were of two types. One was related to the teaching materials used in the class, such as reading materials assigned by the teachers, doing



teachers' written assignments, and listening to the tapes assigned by the teachers. The other was aimed at learning more about English, such as reading English novels, magazines and newspapers, memorising English vocabulary, and other non-oral activities that helped improve the subjects' English proficiency.

The subjects indicated more preference for listening to English over time. Maybe an improved ability to understand spoken English provided the subjects with an incentive to listen to more foreign broadcasts such as BBC and VOA news, from which they could learn more news than from Chinese broadcasts. However, they did not indicate a clear preference for English in terms of reading and speaking in all three semesters. There might be two reasons for this. First, they had spent an average of about seven hours a day on non-oral type of contact, and so they might not prefer to read English when they had a choice. Second, the subjects were not interested in oral English because it was not emphasised in the class.

The subjects' lack of interest in oral English was also reflected in the sharp drop of the participation in oral English activity in the second and the third semesters, possibly a sign of the influence of the learning contexts. The learning contexts might also have influenced the decline in participation level in the non-oral English activities that would have helped to improve the subjects' English proficiency.

Thus, the subjects learned English in a context where the knowledge about the target language was emphasised, despite the intention of the syllabus to enable the development in three skills of language use, viz. listening, speaking, and reading. The most salient feature of such a learning context was that it did not create an atmosphere in which speaking was encouraged. This might have been associated with the decline in the subjects' interests in speaking English outside the classroom.

## **Chapter 7 Results for Subjects' Individual Characteristics - Attitudes, Motivations, and Learning Strategies**

The previous chapter has described the subjects' English learning experiences in and out of class. How did their learning experiences in the classroom affect their attitudes in relation to English learning and toward the classroom learning environment? How did the change in attitude, if any, affect their motivations, both intrinsic and extrinsic, for learning English? How did the motivations, both intrinsic and extrinsic, for learning English affect their adoption of learning strategies? Was there any relationship between the subjects' motivations for learning English and their out-of-class contact with English? These are the relationships between the learning contexts and the subjects' individual characteristics to be explored in this study. But before this, the "what" type questions about the subjects' individual characteristics have to be answered. The purpose of this chapter is just to answer these questions (i.e., sub-questions 5 to 8; for details). The answers will then be used as the bases for the interpretation of above relationships, which will be discussed in Chapter 9.

This chapter is divided into six sections. The first five sections describe the following individual characteristics respectively: (i) attitude in relation to English learning, (ii) attitude toward the classroom learning environment, (iii) integrative and instrumental motivations for learning English, (iv) surface, deep and achieving motives for learning English, and (v) surface, deep and achieving learning strategies. The final section summarises the results described in the first five sections.

### **7.1 Profiles, and changes in profiles, of subjects' two attitudinal aspects and overall attitude in relation to English learning**

#### ***i) Description of the Attitude in Relation to English Learning Questionnaire and the ways of determining types of attitude profile***

This questionnaire was administered four times. The first administration occurred prior to the subjects' English learning at the University. The remaining three took place after the subjects began English learning at the University, one at the end of each of the three semesters. Thus, the subjects' responses at the four administrations represented their attitude in relation to English learning prior to English learning at the University, and at the end of each of the three semesters after they began English learning at the University.

Two sub-types of attitude were investigated, with five items dealing with each aspect. One was *attitude toward English-speaking people*, and the other was *interest in English learning*. Details of all the items are presented in Appendix 4. The following are two examples of the items that were aimed at investigating subjects' attitude toward English-speaking people and their interest in English learning respectively.

Example 1: attitude toward English-speaking people

I find people from English-speaking countries such as United Kingdom, United States of America and Australia warm and friendly.

1          2          3          4          5

Example 2: Interest in English learning

I plan to learn as much English as I can in the university.

1          2          3          4          5

The meaning of each point on this five-point Likert scale was as follows:

5 -- I totally agree with this item

4 -- I basically agree with this item

3 -- I am undecided about this item

2 -- I basically disagree with this item

1 -- I totally disagree with this item

All the items were written in such a way that the choice of points 5 or 4 would indicate that a subject held a most or basic *positive* attitude. The choice of point 3 would indicate that a subject held a neutral attitude. The choice of points 2 or 1 would indicate that a subject had a basic or a most *negative* attitude.

Subjects were scored according to the point chosen for an item. That is, if a subject chose point 5, the score would be 5; for point 4, there would be a score of 4, and so on.

On the basis of the number of items for each sub-type attitude (5) and the total number of items (10), the meaning of each point on the scale, and the scoring method, the nature (or **profile**) of the subjects' attitude in relation to English learning was classified into three major types, represented by 25 (or 50) = the most positive sub-type attitude possible (or a most positive overall attitude possible), 15 (or 30) = a neutral sub-type attitude (or a neutral overall attitude), and 5 (or 10) = the most negative sub-type attitude possible (or a most negative overall attitude possible). Thus, a score of above 15 or 30 indicated a positive sub-type attitude or a positive overall attitude. A score of below 15 or 30 represented a negative sub-type attitude or a negative overall attitude.

*ii) Profiles of subjects' two attitudinal aspects and overall attitude in relation to English learning*

Table 11 displays the means and standard deviations of the scores which the subjects obtained for attitude toward English-speaking people (AEP), interest in English learning (IEL), and overall attitude in relation to English learning (OA) at the test prior to their English learning at the University. The details of each subject's scores are shown in Appendix 14.

| <p><i>Table 11</i></p> <p><i>Means and Standard Deviations of the Scores for Two Attitudinal Aspects and Overall Attitude in Relation to English Learning at the Test Prior to English Learning at the University</i></p> |      |      |
|---|------|------|
|   | Mean | SD   |
| AEP   | 18.7 | 2.49 |
| IEL   | 22.2 | 2.19 |
| OA  | 40.9 | 3.37 |

Legend: AEP = attitude toward English-speaking people  
 IEL = interest in English learning  
 OA = overall attitude in relation to English learning  
 SD = standard deviation

The mean scores for attitude toward English-speaking people, interest in learning English, and overall attitude in relation to English learning were 18.7, 22.2 and 40.9 respectively. As mentioned, a score of above 15 represented a positive sub-type attitude, and that of above 30 represented a positive overall attitude. Thus, the above mean scores suggest that prior to their English learning at the University, the subjects as a group held a positive attitude toward English-speaking people. Their interest in learning English and their overall attitude in relation to English learning were also positive. A discernible pattern was not found so all subjects' changing scores were examined together.

The same questionnaire in equivalent forms was administered to the subjects three times after they began English learning at the University, one at the end of each semester. Details of the subjects' responses in the three tests, together with the means and standard deviations, are also shown in Appendix 14.

*iii) Changes in profiles of subjects' two sub-type attitudes and overall attitude in relation to English learning*

To determine whether the two sub-type attitudes and the overall attitude underwent any significant change during the three semesters of English learning at the University, ANOVA (one factor, repeated measures) was applied. Details of the analysis are presented in Appendix 15.

No significant differences were found. The test prior to English learning at the University has shown that the subjects as a group were positive in both sub-type attitudes and in the overall attitude in relation to English learning. Therefore, the non-significant difference suggests that there was no overall change (averaged across the group) in the subjects' positive attitude in relation to English learning (i.e., both sub-type attitudes and overall attitude) throughout the three semesters of English learning at the University.

Although there was no overall change in the subjects' positive attitude, some individuals exhibited sharp changes, but only in their attitude toward English-speaking people. The general tendency of change was toward more positive attitude. For example, S2, S9, and S15 (See Appendix 14) indicated a positive attitude at the pre-university English learning test. But in the first post-university English learning test (also the second in the case of S9), the attitude became negative. In the second and the third post-university English learning tests (only the third in the case of S9), the attitude became positive again. S16 and S17's attitude also underwent the similar fluctuation (i.e., positive in the pre-university English learning test, neutral in the first post-university English learning test, and then positive again in the second and the third post-university English learning tests).

7.2 Profiles, and changes in profiles, of subjects' attitude toward the classroom learning environment (three attitudinal aspects and overall attitude)

*i) Description of the Attitude toward the Classroom Learning Environment Questionnaire and ways of determining types of attitude profile*

The Attitude toward the Classroom Learning Environment Questionnaire (ACLEQ) was designed to investigate the subjects' attitude toward the English learning environment. This questionnaire was administered three times to the subjects after they began English learning at the University, one at the end of each of the three semesters. Thus, the subjects' responses at each administration of the questionnaire represented their attitude toward the learning environment in the relevant semester.

Three aspects of the attitude toward the learning environment were investigated, viz. English class anxiety, attitude toward teaching methods, and attitude toward course materials. There were four items under each attitudinal aspect, and so the questionnaire consisted of 12 items. Details of all the items are presented in Appendix 6. The following are three examples illustrating the items under the aspects "English class anxiety", "attitude toward teaching methods", and "attitude toward course materials" respectively.

Example 1: English class anxiety

When I attend English class, I am afraid that teachers may ask me questions.

1      2      3      4      5

Example 2: attitude toward teaching methods

The teaching methods adopted by the teachers in this semester fits my present proficiency of English.

1      2      3      4      5

Example 3: attitude toward course materials

The teaching materials adopted in this semester just fits my present proficiency of English.

1      2      3      4      5

The meaning of each point on this five-point Likert scale is as follows:

5 -- I totally agree with this item

4 -- I basically agree with this item

3 -- I am undecided about this item

2 -- I basically disagree with this item

1 -- I totally disagree with this item

The items were written in two different ways. The four items under "English class anxiety" were phrased in such a way that the choice of points 5 or 4 indicated a *very high* or a *high* level of English class anxiety. The choice of point 3 meant a neutral level of anxiety in English class. The choice of points 2 or 1 showed a *low* or a *very low* level of anxiety in English class. The eight items under "attitude toward teaching methods" and "attitude toward course materials" were written in such a way that the choice of points 5 or 4 suggested a most positive or a basic positive attitude toward teaching methods and toward teaching materials. The choice of point 3 meant a neutral attitude. The choice of points 2 or 1 indicated a basic negative or a most negative attitude.

There were also two ways of scoring the subjects' responses. For items under "attitude toward teaching methods" and "attitude toward course materials", the subjects were scored according to the point they chose for an item. For items under

"English Class Anxiety", the score was reversed so that 5 was allocated when the subjects chose point 1, and 4 was allocated when the subjects chose point 2, etc.

On the basis of the number of items for each attitudinal aspect (4) and the total number of items (12), the meaning of each point on the scale, and the scoring methods, the nature (or **profile**) of the subjects' attitude toward the classroom learning environment was classified into 3 major types, represented by 20 (or 60) = the lowest level of English class anxiety or the most positive attitudinal aspect possible (or a most positive overall attitude possible), 12 (or 36) = a neutral level of English class anxiety or a attitudinal aspect (or a neutral overall attitude), and 4 (or 12) = the highest level of English class anxiety or the most negative attitudinal aspect possible (or a most negative overall attitude possible). Thus, a score of above 12 or 36 indicated a positive attitudinal aspect or a positive overall attitude. A score of below 12 or 36 represented a negative attitudinal aspect or a negative overall attitude.

ii) *Profiles of subjects' three attitudinal aspects and overall attitude toward the classroom learning environment*

Table 12 presents the means and standard deviations of the scores which the subjects obtained for three attitudinal aspects, viz. English class anxiety (ECA), attitude toward teaching methods (ATM), attitude toward course materials (ACM), and overall attitude toward the classroom learning environment (OA) at the first test, administered at the end of the first semester. For details of each subject's responses, see Appendix 16.

| Table 12   |      |      |
|--|------|------|
| <i>Means and Standard Deviations of the Scores for Three Attitudinal Aspects and Overall Attitude toward the Classroom Learning Environment (Test 1)</i> |      |      |
|  | Mean | SD   |
| ECA  | 11.9 | 3.26 |
| ATM  | 12.7 | 2.13 |
| ACM  | 14.6 | 2.19 |
| OA   | 39.2 | 4.09 |

Legend: ECA = English class anxiety  
ATM = attitude toward teaching methods  
ACM = attitude toward course materials  
OA = overall attitude toward the classroom learning environment  
SD = standard deviation

The mean for English class anxiety was about 12 (rounded from 11.9), indicating a neutral level of class anxiety in the first semester. The subjects held positive attitudes toward teaching methods and toward course materials, and their overall attitude was also positive, having scored 12.7, 14.6 and 39.2 respectively.

The same questionnaire in equivalent form was again administered to the subjects twice after the first test, one at the end of the second semester, the other at the end of the third semester. Details of the subjects' responses in the two tests, together with the means and standard deviations, are also presented in Appendix 16.

*iii) Changes in profiles of subjects' three attitudinal aspects and overall attitude toward the classroom learning environment*

ANOVA (one factor, repeated measures) was applied to determine whether the subjects significantly changed their attitude toward the classroom learning environment (including the three attitudinal aspects) in the second and the third semesters. The results of analysis are displayed in Appendix 17.

Three significant changes were found in terms of the English class anxiety, attitude toward the teaching methods, and overall attitude toward the English learning environment. They will be reported separately below.

English Class Anxiety  $F = 3.37$  ( $df = 2, 38$ ), which is significant at the .05 level. This suggests that the subjects' levels of English class anxiety underwent real changes in the second and the third semesters, real in the sense that the changes were associated with the subjects' different feelings when attending English classes, but not due to sampling errors.

The direction of the change was determined by examining the mean scores for this attitudinal aspect in the three tests. It has been shown that the mean score in the first test was about 12. The mean scores in the second and the third tests were found to be about 10 and 12 respectively. A score of between 8 and 11 has been defined as representing a high level of class anxiety, and that of 12, a neutral level of class anxiety. Thus, the overall level of class anxiety in the second semester was high, while that in the first and the third semesters was neutral.

Attitude toward teaching methods  $F = 4.80$  ( $df = 2, 38$ ), which is significant at the .05 level, indicating that the scores for this attitudinal aspect were significantly different among the three tests. This suggests that the subjects' attitude toward teaching methods were different during the 3 semesters of English learning at the University. A comparison of the mean scores for this attitudinal aspect in the three tests (i.e., 13 in the first test, 11 in the second, and 13 in the third) reveals that the



mean score in the second test was the lowest among the three tests. As mentioned, for a single attitudinal aspect, a score of between 8 and 11 represented a basic negative attitude, and a score of between 13 and 16 represented a basic positive attitude. On the basis of the above mean scores, it can be concluded that the subjects generally held a negative attitude toward teaching methods in the second semester, but in the first and third semesters, their attitude toward teaching methods was generally positive.

Overall attitude toward the English learning environment  $F = 8.23$  ( $df = 2, 38$ ), which is significant ( $p < .01$ ). This suggests that the subjects' overall attitude underwent significant changes during the three semesters of English learning at the University. The mean scores for the overall attitude in the three tests were 39 for the first test, 35 for the second, and 39 for the third. A score of between 37 and 48 has been defined as representing a basic positive overall attitude, and that of between 24 and 35, a basic negative overall attitude. Thus, the subjects' overall attitude toward the English learning environment was basically positive in the first and the third semesters, but was basically negative in the second semester.

No significant difference was found in the scores for attitude toward course materials in the 3 tests. Since the mean score for this attitudinal aspect was 15 in the first test, indicating a positive attitude, it can be concluded that there was no overall change in the subjects' basically positive toward the course materials adopted in all three semesters of English learning at the University. Although there was no overall change (averaged across the group), some individuals exhibited sharp changes in their attitude toward course materials. For example, S6 indicated a most positive attitude in the first two tests, but a negative attitude in the third. S16 indicated a basic positive attitude in the first test, but a negative attitude in the second, and then a basic positive attitude again in the third. However, no pattern can be observed of the individual changes in this attitudinal aspect.

### 7.3 Profiles, and changes in profiles, of subjects' integrative and instrumental motivations for learning English

#### *i) Description of the Motivation for Learning English Questionnaire and ways of determining types of profiles of the two motivations*

This questionnaire was also administered four times. The first administration took place prior to the subjects' English learning at the University. The remaining three took place after the subjects began English learning at the University, one at the end of each of the three semesters. Thus, the subjects' responses at the four

administrations represented their integrative and instrumental motivations for learning English prior to English learning at the University, and in each of the three semesters after they began English learning at the University.

Two types of motivation, viz. *integrative motivation* and *instrumental motivation*, were investigated, five items dealing with each motivation. Following the definitions of Gardner and Lambert (1959), in this study, integrative motivation referred to the subjects' wish to identify with English-speaking people, and instrumental motivation to the subjects' wish to learn English for the benefits which they hoped they could obtain by knowing English. Details of all the items are presented in Appendix 5. The following are two examples of the items that were aimed at investigating subjects' integrative motivation and instrumental motivation respectively.

Example 1: integrative motivation

It is very important for me to study English, because it will make my life more convenient once I have the opportunity to live in an English-speaking country.

1      2      3      4      5

Example 2: instrumental motivation

It is important for me to learn English well, because it will enable me to find a better job in my future life.

1      2      3      4      5

The meaning of each point on this five-point Likert scale was as follows:

- 5 -- I totally agree with this item
- 4 -- I basically agree with this item
- 3 -- I am undecided about this item
- 2 -- I basically disagree with this item
- 1 -- I totally disagree with this item

All the items were written in such a way that the choice of points 5 or 4 would indicate that a subject held a *very high* or *high* motivation. The choice of point 3 would indicate that a subject had a neutral motive. The choice of points 2 or 1 would indicate that a subject had a *low* or *very low* motivation.

Subjects were scored according to the point chosen for an item. That is, if a subject chose point 5, he/she would score 5; if he/she chose point 4, he/she would score 4; and so on.

On the basis of the number of items for each motivation (5), the meaning of each point on the scale, and the scoring method, the nature (or **profile**) of the subjects' integrative and instrumental motivations for learning English were classified into three major types, represented by 25 = the most positive motivation possible, 15 = a neutral motivation, and 5 = the most negative motivation possible. Thus, a score of

above 15 indicated a positive motivation. A score of below 15 represented a negative motivation.

*ii) Profiles of subjects' integrative and instrumental motivations for learning English*

Table 13 presents the means and standard deviations of the scores which the subjects obtained for integrative motivation (INTM), instrumental motivation (INSM) in the pre-university English learning test. For details of the subjects' responses, see Appendix 18.

| <i>Table 13</i>  |      |      |
|--|------|------|
| <i>Means and Standard Deviations of the Scores for Integrative and Instrumental Motivations for Learning English Prior to English Learning at the University</i> |      |      |
|  | Mean | SD   |
| INTM   | 18.5 | 2.78 |
| INSM   | 18.5 | 2.6  |

Legend: INTM = integrative motivation  
 INSM = instrumental motivation  
 SD = standard deviation

The above mean scores for the first test administration indicate that the subjects as a group possessed a high level of integrative and instrumental motivations at the outset. This suggests that what motivated the subjects to major in English at the University were their desires both to identify themselves with English-speaking people, and to benefit from their knowledge of English in the future.

The same questionnaire was administered in equivalent form to the subjects three times after they began English learning at the University, one at the end of each of the three semesters. The details of the subjects' responses in the three tests are also shown in Appendix 18.

*iii) Changes in profiles of subjects' integrative and instrumental motivations for learning English*

To determine whether the scores obtained by the subjects for integrative and instrumental motivations in the four tests were statistically different, ANOVA (one factor, repeated measure) was applied. The results of analysis are displayed in Appendix 19.

No significant difference was found, indicating that the subjects scored similarly in all four tests for these two motivations for learning English. As was mentioned above, the subjects indicated a high level of integrative and instrumental motivations prior to English learning at the University. Thus, the non-significant difference suggests that the three semesters of English learning experiences at the University did not change the subjects' desires to identify themselves with English-speaking people and to benefit from their knowledge of English in the future.

Although there was no overall change (averaged across the group), some individuals showed sharp changes in both directions (See Appendix 18). For example, S9 indicated a positive integrative motivation in the first two tests, having scored 21, but in the third test, the score dropped to 15, indicating a neutral integrative motivation, and then rose again to 21 in the fourth test. S2 indicated a positive instrumental motivation at the pre-university English learning testing session, scoring 20. The score dropped to 15 at the first post-university English learning testing session, indicating a neutral instrumental motivation. However, in the third post-university English learning testing session, the score rose to 22, indicating once again a positive instrumental motivation. No regularity could be found in the individual subject's change of scores over time.

#### 7.4 Profiles, and changes in profiles, of subjects' surface, deep and achieving motives for learning English

##### *i) Description of the English Learning Process Questionnaire and ways of determining types of motive profile*

Twenty-one items of the English Learning Process Questionnaire (ELPQ), which was adapted from Biggs' Study Process Questionnaire (SPQ) (1987b), were employed to test the subjects' surface, deep and achieving motives for learning English. The questionnaire was administered three times, one at the end of each of the three semesters. The subjects' responses represented their motives during each semester.

Following Biggs' (1988) definitions, surface motive meant an extrinsic motive to meet the requirements of courses; deep motive referred to an intrinsic motive to know more about the subjects taught; achieving motive was a competitive motive to obtain high grades. There were seven items under each type of motive. Details of all the items are presented in Appendix 7. The following are three examples illustrating the items under surface motive, deep motive and achieving motive respectively.

Example 1: surface motive

I think it is unnecessary to review what would not be tested in the examinations  
 1            2            3            4            5

Example 2: deep motive

I find that learning English gives me a feeling of deep personal satisfaction.  
 1            2            3            4            5

Example 3: achieving motive

I want top grades in most or all of my courses so that I can be assigned a better position when I graduate.  
 1            2            3            4            5

According to Biggs (1987), the meaning of each point on this five-point Likert scale is as follows:

- 5 -- this item is always or almost always true of me
- 4 -- this item is frequently true of me
- 3 -- this item is true of me about half the time
- 2 -- this item is sometimes true of me
- 1 -- this item is never or only rarely true of me

The items were all written in such a way that the higher the score, the higher the level of motivation expressed by the item. Subjects were scored according to the point they chose as their responses to the items. More particularly, a choice of point 5 meant a score of 5, a choice of point 4 meant a score of 4, and so on.

On the basis of the number of items (7) for each type of motive, the meaning of each of the 5 points on the Likert scale, and the scoring method, the nature (or profile) of a subject's profile of each type of motive was classified into 3 major types, represented by the following score values: 35 = the highest level of motive possible, 21 = the moderate level of motive, and 7 = the lowest level of motive possible. Thus, a score of above 21 indicated an above moderate level of motive, and a score of below 21 showed a below moderate level of motive.

*ii) Profiles of subjects' surface, deep and achieving motives for learning English*

Table 14 presents means and standard deviations of the scores obtained by the subject for surface motive, deep motive, and achieving motive, in the first test, which was administered by the end of the first semester. The details of each subjects' responses are shown in Appendix 20.

| <i>Table 14</i>   |       |      |
|---|-------|------|
| <i>Means and Standard Deviations of the Scores for Surface, Deep and Achieving Motives (Test 1)</i> |       |      |
|   | Mean  | SD   |
| Surface Motive  | 14.25 | 3.12 |
| Deep Motive   | 22.6  | 6.1  |
| Achieving Motive  | 23.65 | 4.79 |

The above mean scores indicated that the overall level of surface motive was below moderate, but the overall levels of deep and achieving motives were above moderate. In other words, the subjects generally thought that their purpose of learning English at the University was not just to meet the requirements of the courses, but to expand their knowledge about English and to obtain high grades in examinations.

The same questionnaire was again administered to the subjects in equivalent form twice, at the end of the second and the third semesters respectively. Details of the subjects' responses in these tests are also shown in Appendix 20.

### *iii) Changes in profiles of surface, deep and achieving motives for learning English*

ANOVA (one factor, repeated measure) was applied to determine if the scores which the subjects obtained in the three tests were statistically different. The results of analysis are displayed in Appendix 21.

Significant difference was found only in relation to the surface motive.  $F = 4.84$  ( $df = 2, 38$ ), which is significant at the .05 level. This indicated a significant overall difference in the subjects' scores for surface motive among the three tests. A comparison of the mean scores for this motive in the three tests, viz. 14.25 in the first, and 16.5 in the second and the third respectively, showed that overall, the subjects had a higher level of surface motive in the second and the third semesters than in the first. However, the nature of surface motive was basically the same. Such a judgment was based on the examination of the profiles of surface motive represented by the mean score. A score of below 21 has been defined as representing a below moderate level of motive. Thus, even though there was a significant rise in the mean score, the nature of the motive was basically the same, i.e., the subjects still had a below moderate level of surface motive.

The mean scores for deep and achieving motives in the first test have indicated that the subjects generally had an above moderate level of deep and achieving motives in the first semester. Thus, the non-significant difference means that their overall high levels of deep and achieving motives remained unchanged in the second and the third semesters. Although there was no overall change in the levels of deep and achieving motives, some subjects indicated dramatic changes (See Appendix 20). For instance, S20 scored 21 for deep motive in the first test, indicating a neutral level of deep motive, but the score dropped to 18 in the second test, indicating a low level of the motive, and then jumped to 30 in the third test, indicating a very high level of deep motive. S2 indicated a very high level of achieving motive in the first test, scoring 29, but in the second test, the score dropped to 21, indicating a neutral level. The score rose again in the third test to 30, indicating in very high level of achieving motive. Thus, the dramatic changes shown by some individual subjects were in both directions, and there appeared to be no regularity in this type of change.

### 7.5 Profiles, and changes in profiles, of subjects' adoption of three types of English learning strategy

#### *i) Description of the English Learning Process Questionnaire and ways of determining nature of profiles*

Twenty-one items of the English Learning Process Questionnaire (ELPQ), which was adapted from Biggs' Study Process Questionnaire (SPQ) (1987b), were employed to investigate the subjects' English learning strategy. The questionnaire was administered three times, one at the end of each of the three semesters. The subjects' responses represented their adoption of learning strategies during each semester.

The subjects' adoption of three types of learning strategy, viz. surface strategy, deep strategy, and achieving strategy, were investigated. The three types of learning strategy were claimed by Biggs (1988) to be associated with surface motive, deep motive, and achieving motive respectively. Following Biggs' (1988) definitions, surface strategy referred to the learning strategies which are essentially reproductive in order to meet the requirements of courses, deep strategy meant the behaviours which are aimed at finding out more knowledge, and understanding, using, and extending that knowledge, and achieving strategy referred to the "organisational behaviours that are supposed to characterise the model student, such as keeping clear notes, planning optimal use of time, and all those planning and organisational activities referred to as 'study skills'" (p. 199). There were seven items under each type of learning strategy. Details of all the items are presented in Appendix 7. The

following are three examples illustrating the items under surface strategy, deep strategy and achieving strategy respectively.

Example 1: surface strategy

I think doing out-of-class reading is just a waste of time, so I only do the homework assigned by the teachers and review what the teachers have lectured on during the class.

1            2            3            4            5

Example 2: deep strategy

When I am studying English, I associate what I learn now with what I have learnt before.

1            2            3            4            5

Example 3: achieving strategy

I take careful notes during the class and rearrange them after the class.

1            2            3            4            5

According to Biggs (1987b), the meaning of each point on this five-point Likert scale is as follows:

- 5 -- this item is always or almost always true of me
- 4 -- this item is frequently true of me
- 3 -- this item is true of me about half the time
- 2 -- this item is sometimes true of me
- 1 -- this item is never or only rarely true of me

The items were all written in such a way that the higher the score, the higher the level of strategy adoption expressed by the item. Subjects were scored according to the point they chose as their responses to the items. More particularly, a choice of point 5 meant a score of 5, a choice of point 4 meant a score of 4, and so on.

On the basis of the number of items (7) for each type of learning strategy, the meaning of each of the 5 points on the Likert scale, and the scoring method, the nature (or **profile**) of a subject's adoption of each type of learning strategy was classified into three major types. They were represented by the following score values: 35 = the highest possible adoption level of learning strategy, 21 = the moderate adoption level of learning strategy, and 7 = the lowest possible adoption level of learning strategy. Thus, a score of above 21 indicated an above moderate adoption level of learning strategy, and a score of below 21 showed a below moderate adoption level of learning strategy.

*ii) Profiles of subjects' adoption of three types of English learning strategy*

Table 15 displays means and standard deviations of the scores which the subjects obtained for surface strategy, deep strategy, achieving strategy, in the first test, administered at the end of the first semester. Details of the subjects' responses are shown in Appendix 22.



| <p style="text-align: center;"><i>Table 15</i></p> <p style="text-align: center;"><i>Means and Standard Deviations of the Scores for Three types of Learning Strategy (Test 1)</i></p> |      |      |
|--|------|------|
|  | Mean | SD   |
| Surface Strategy   | 15.2 | 4.4  |
| Deep Strategy  | 22.8 | 5.55 |
| Achieving Strategy   | 21.8 | 4.33 |

The subjects had an overall below moderate adoption level of surface strategy, but an overall above moderate adoption level of deep and achieving strategies in the first semester, as indicated by the above mean scores. In other words, the subjects generally seldom adopted the strategies that were reproductive in nature. More often, the learning strategies which they adopted were mainly aimed at finding out more about the English language and making the learning more efficient.

The same questionnaire was again administered in equivalent form to the subjects twice, at the end of the second and third semesters respectively. Details of the subjects' responses in the two tests are also shown in Appendix 22.

*iii) Changes in profiles of subjects' adoption of three types of English learning strategy*

ANOVA (one factor, repeated measure) was applied to determine if the scores obtained in the three tests were statistically significant. The results of analysis are shown in Appendix 23.

No significant difference was found, suggesting that there was no overall change (averaged across the group) in the subjects' adoption levels of the three types of learning strategy. It has been shown that, in the first test, the mean score for surface strategy was 15.2, representing a below moderate adoption level; the mean scores for deep strategy and achieving strategy were 22.8 and 21.8, representing an above moderate adoption level. Thus, the absence of overall change means that during the three semesters of English learning at the University, the subjects generally had a below moderate adoption level of surface strategy, and an above moderate adoption level of deep strategy and achieving strategy.

Individually, some subjects exhibited sharp changes (in both directions) over time in terms of deep strategy (See Appendix 22). For example, S6 scored 29, 18, and 23 for deep strategy in the first, second, and third tests respectively, indicating an above moderate adoption level in the first semester, a below moderate adoption level in the second, and then an above moderate adoption level again in the third.

S19 scored 14 in the first test, indicating a below moderate adoption level, but the score rose to 28 and 25 in the second and the third tests respectively, indicating an above moderate adoption level. However, no regularity could be found in the way in which individual subject's scores changed over time.

### 7.6 Overall summary of the investigation into subjects' individual characteristics

This chapter has presented the results of investigation into the profiles, and changes in the profiles, of subjects' attitudes (in relation to English learning and toward the classroom learning environment), motivations (integrative, instrumental, surface, deep, and achieving), and learning strategies (surface, deep and achieving). These results have answered sub-questions 5 to 8.

The subjects held a positive attitude in relation to English learning prior to the English learning at the University, and this positive attitude remained unchanged during the three semesters of English learning at the University. This was reflected in their consistent positive attitude toward English-speaking people, and positive interest in learning English.

The subjects held a basic negative overall attitude toward the classroom learning environment in the second semester. But in the first and the third semesters, their overall attitude was basically positive. The subjects' positive attitude toward course materials remained unchanged in the three semesters. Thus, the main factors that influenced the subjects' attitude toward the classroom learning environment were their English class anxiety and their attitude toward teaching methods. Since the attitude toward course materials was stable, it did not affect the subjects' overall attitude to the same degree as class anxiety and attitude toward teaching methods did. The reason that the subjects' overall attitude toward the learning environment dropped in the second semester will be discussed in Chapter 9.

The subjects also had positive integrative and instrumental motivations for learning English prior to the English learning at the University, and these positive motivations also remained intact during the three semesters of English learning at the University. This suggests that the subjects applied to major in English at the University out of their desire to both identify themselves with the English-speaking people, and benefit from their knowledge of English in the future, and that such a desire did not change during the three semesters of their English learning experiences at the University.

In this particular learning environment, the subjects generally thought that they were not at the University just to meet the requirements of the courses (i.e., had a below moderate level of surface motive), but to learn more about the English language and to obtain high grades in examinations (i.e., had an above moderate level of deep and achieving motives). However, the scores for surface motive rose significantly over time, though the nature of the motive was very much the same (i.e., still at a below moderate level). As would be expected, the learning strategies adopted by the subjects appeared to match what they claimed their motives for learning English at the University were. The overall adoption level of surface strategy, i.e., strategy that was reproductive in nature, was below moderate in all three semesters, appearing to match the below moderate level of surface motive. The overall adoption of levels of deep and achieving strategies were above moderate in all three semesters, indicating that the subjects often adopted strategies that helped them to (i) find out more about the target language, and understand, use or extend that knowledge, and (ii) make their learning more efficient. This also appeared to match with the overall high levels of deep and achieving motives.

The subjects as a group did not undergo significant changes in attitude toward English learning, attitude toward course materials, social-psychological motivation for learning English, deep and achieving motives, and all three types of learning strategy. Individually, however, some subjects exhibited dramatic changes (in both directions) in all the above characteristics. Yet no pattern could be found in the individual changes of these characteristics.

To conclude, the subjects in this study were a group of learners who, prior to their English learning at the University, had a positive attitude in relation to English learning, and highly motivated to do so because of the emotional and financial gains which they hoped to obtain from their knowledge of English. It is natural that this should be so, given the fact that they all applied to major in English of their own accord. The three semesters of English learning at the University did not change their attitude in relation to English learning and their integrative and instrumental motivations, even when they held a negative attitude toward the classroom learning environment. Their motives to learn English in this particular learning environment appeared to be consistent with their positive attitude in relation to English learning and their integrative and instrumental motivations. The consistency was reflected in the subjects' claims that their purpose of learning English at the University was not just to meet the course requirements, but to find out more about the English language and to obtain high scores in examinations. The learning strategies which they adopted also appeared to be consistent with the claims about their motives for learning English in this particular learning environment. This was so because the

subjects often adopted the strategies that helped them to find out more about the English language and to make their learning more efficient.

The above summary has shown that the individual characteristics were not only related to the subjects' learning environment, but also related among themselves. The summary made only some tentative statements about these relationships, which will be further explored in Chapter 9.

## **Chapter 8 Results for Subjects' Learning Outcomes - Internal Representations of English Knowledge and Oral English Development in Terms of "Function-Form" Relationships**

So far, the subjects' learning contexts and their individual characteristics have been described in Chapters 6 and 7 respectively. In this chapter, the subjects' learning outcomes will be described in terms of their internal representation of the knowledge about the English language, and the linguistic forms which they used orally to express the discourse functions of "foreground" and "background" and the case function of "time reference", together with the production strategies adopted during oral production. The description will not only answer sub-questions 8 to 11, but also provide the bases for the exploration of the following relationships among the learning contexts, the individual characteristics and the learning outcomes: (i) the subjects' adoption of learning strategies - their internal representations of English knowledge, (ii) the subjects' representations of English knowledge - the linguistic forms they used during the oral production, (iii) the linguistic forms the subjects used during the oral production - the discourse functions and case function expressed by the linguistic forms, (iv) the ways in which the subjects produced the linguistic forms orally - their oral use of English in and out of the classroom, and (v) the subjects' learning outcomes - the subsequent English learning. The exploration of these relationships will be dealt with in the Chapter 9.

This chapter is divided into three sections. The first section describes the investigation into the subjects' internal representations of the knowledge about English. The development of the subjects' oral English ability in terms of "function-form" relationships is the topic of the second section. The third section summarises the results of the investigation in the previous two sections.

### **8.1 *Internal representations of English knowledge***

The subjects' internal representations of English knowledge was investigated by having them judge the grammaticality of their own oral English production at the end of the first semester. Before the results of the investigation are presented, a description of the Metalinguistic Judgment Test, the instrument used to elicit the subjects' responses, is in order.

### i) *The Metalinguistic Judgment Test*

The Metalinguistic Judgment Test consisted of the orthographical transcription of two narratives orally produced by two subjects, S4 and S11 at the 4th elicitation session. The two narratives were chosen because (i) the contents were not about anything that was personal, and (ii) a large number of grammatical errors were committed, and they were not self-corrected. The test was conducted at the end of the first semester.

Forty-two instances of error were found in the two selected narratives. They belonged in five types of grammatical errors according to Standard English. Details of the errors are presented in Appendix 8. The following is a list of five types of error, with examples illustrating each type, the rules according to Standard English broken by the error, and the number of times that type of error was committed in the narratives.

#### Types of error, examples, and numbers of error

1. Tense error, e.g., "Since we *separate* at the railway station, we *walk* on our each way". (Past tense of verb must be used when action happening in the past is mentioned). (18)

2. Pronoun error, e.g., the use of "he" or "his" to express the ideas of "she" or "her". (The pronouns "he" or "his" are used to refer to male, and "she" or "her" to female) (15)

3. Determiner-noun number agreement error, e.g., "and there are several *wonder* there." (When a plural concept is expressed, -s or -es must be added to the noun). (5)

4. Subject-verb number agreement error, e.g., "We all *was* very happy, ..." (The form of verb must agree with the subject of the clause in number) (2)

5. Article error, e.g., "He was *a* monitor of his class." (The definite article "the" should be used when a title is referred to. In Chinese universities, each class can only have one monitor, a person who helps teachers to carry out some duties of running the class). (2)

The two narratives were semantically divided into 30 units. For each unit, the subjects were first required to perform the **Discrimination Task**, i.e., point out whether there was any grammatical error according to either their intuition or understanding of English, and whether they were certain or uncertain about their judgments. It was expected that the subjects could respond in one of four different ways to this task. The four possible responses were:

i) the linguistic features which a subject considered as incorrect according to his/her intuition or understanding of English grammar were actually correct according to Standard English (Type 1).

ii) a subject did not discriminate between incorrect and correct linguistic features (Type 2).

iii) a subject successfully discriminated between incorrect and correct linguistic features, but was uncertain about his/her judgment (Type 3).

iv) a subject successfully discriminated between incorrect and correct linguistic features, and was certain about his/her judgment (Type 4).

The subjects who could perform the Discrimination Task were then required to perform the **Location Task**, i.e., pinpoint the grammatical error(s) if the subjects thought that the unit contained incorrect element(s), and indicate whether they were certain or uncertain about their judgments. Since the successful performance of this task presupposed knowledge of the relevant grammatical rules, the subjects who successfully completed the Discrimination Task by "guessing" would have little chance of success in this task. One of the following four possible responses was expected:

i) the linguistic features which a subject located as errors according to his/her knowledge of English grammar were actually correct according to Standard English (Type 1).

ii) a subject did not locate the erroneous linguistic features (Type 2).

iii) a subject successfully located the erroneous linguistic features, but was uncertain about his/her judgment (Type 3).

iv) a subject successfully located the erroneous linguistic features, and was certain about his/her judgment (Type 4).

The subjects who could pinpoint an erroneous linguistic feature then continued to perform the **Correction Task**, i.e., correct the grammatical error(s) located, according to the subjects' knowledge of English grammar, and indicate whether they were certain or uncertain about the correction(s) they provided. The subjects were also expected to respond in one of the following four different ways:

i) the correction provided by a subject was actually incorrect according to Standard English (Type 1).

ii) a subject did not provide any correction to the erroneous linguistic features (Type 2).

iii) a subject successfully provided the target correction, but was uncertain about it (Type 3).

iv) a subject successfully provided the target correction, and was certain about it (Type 4).

After the subjects provided correction to the error located, they were required to perform the **Rule Statement Task**, i.e., state in writing the rule(s) which the grammatical error(s) broke. They were expected to respond in one of the 3 different ways. The 3 possible responses were:

i) a subject stated the rule broken by the erroneous linguistic feature located, but the rule was not correct according to Standard English (Type 1).

ii) a subject did not state the rule broken by the erroneous linguistic feature located (Type 2).

iii) a subject stated the rule broken by the erroneous linguistic feature located, and the rule was correct according to Standard English (Type 3).

### ii) Subjects' performance of the Metalinguistic Judgment Test

Frequency distributions of subjects' responses to five types of error in all four tasks are displayed in Table 16. The Table is illustrated below, showing the responses given by S1. The responses given by the remaining subjects are shown in Appendix 24 due to the bulk of the Table.

| Excerpt from Table 16 (S1)  |            |                |    |    |       |          |    |    |       |            |    |    |       |                   |    |       |
|---|------------|----------------|----|----|-------|----------|----|----|-------|------------|----|----|-------|-------------------|----|-------|
| A Summary of Subjects' Responses in Four Tasks Required in Metalinguistic Judgment Test |            |                |    |    |       |          |    |    |       |            |    |    |       |                   |    |       |
| #/%   |            |                |    |    |       |          |    |    |       |            |    |    |       |                   |    |       |
| Subj.   | Error Type | Discrimination |    |    |       | Location |    |    |       | Correction |    |    |       | Statement of Rule |    |       |
|   |            | T1             | T2 | T3 | T4    | T1       | T2 | T3 | T4    | T1         | T2 | T3 | T4    | T1                | T2 | T3    |
| S1  | Tense      | 2/11           |    |    | 16/89 | 2/11     |    |    | 16/89 | 2/11       |    |    | 16/89 | 2/11              |    | 16/89 |
|   | Pronoun    | 3/20           |    |    | 12/80 | 3/20     |    |    | 12/80 | 3/20       |    |    | 12/80 | 11/73             |    | 4/27  |
|   | D-N        | 1/20           |    |    | 4/80  | 1/20     |    |    | 4/80  | 1/20       |    |    | 4/80  | 2/40              |    | 3/60  |
|   | S-V        | 1/50           |    |    | 1/50  | 1/50     |    |    | 1/50  | 1/50       |    |    | 1/50  | 1/50              |    | 1/50  |
|   | Article    | 1/50           |    |    | 1/50  | 1/50     |    |    | 1/50  | 1/50       |    |    | 1/50  | 2/100             |    |       |

Legend: Subj. = subject  
 T1, T2, T3, T4 = Types 1, 2, 3, 4 responses  
 D-N = errors that violate determiner-noun number agreement  
 S-V = errors that violate subject-verb number agreement  
 #/% = number of instances of response/percentage of the instances in the total number of responses to the particular type of error, i.e. 2/11 under tense means that the number of instances of response was 2 and this number accounts for 11% of the 18 responses to the tense errors

It should be noted that three subjects, viz. S9, S11, and S14, somehow thought that the "best girl friends" (in the passage produced by S11, Appendix 8,) should be a "boy". Therefore, for these subjects, there were only two pronoun mistakes. One was in Unit 1, in which "girl" was corrected to "boy". The other was in Unit 5, in which "she" was corrected to "he". Also, S8 and S19 did not indicate whether they were certain or uncertain about the corrections they provided for the tense errors. These responses were put under Type 3 responses with "^" marks. They will not be discussed here.

The results will be discussed according to the order in which the four tasks were performed, viz. the Discrimination, Location, Correction, and Rule Statement Tasks.



**Performance on the Discrimination Task** The subjects showed uniformity in their performance of the discrimination task. Only two types of response were found in all the subjects, viz. Type 2 response and Type 4 response. In other words, subjects either did not distinguish between correct and incorrect features, or they could make such a distinction, and were certain about their judgments. There was not a single instance of Type 1 or Type 3 responses. In other words, no subject made an incorrect judgment about the correctness of the linguistic features in question. Also, no subject showed uncertainty about his/her judgment of the linguistic features' correctness.

Another characteristic of the subjects' performance of the Discrimination Task was that the errors about which the subjects discriminated correctly were invariably much more in number than those about which they did not discriminate. This tendency was shown in the much greater number of Type 4 responses than that of Type 2 responses, as can be from Table 17. This indicated that the subjects were able to judge the correctness of most instances of the errors.

| Table 17   |                           |                           |
|--|---------------------------|---------------------------|
| <i>A Summary of Total Type 4 and Total Type 2 Responses to Discrimination Task</i> |                           |                           |
| Subject  | Number of Type 2 Response | Number of Type 4 Response |
| S1   | 8                         | 34                        |
| S2   | 8                         | 34                        |
| S3   | 9                         | 33                        |
| S4   | 12                        | 30                        |
| S5   | 4                         | 38                        |
| S6   | 9                         | 33                        |
| S7   | 2                         | 40                        |
| S8   | 8                         | 34                        |
| S9   | 6                         | 23                        |
| S10  | 2                         | 40                        |
| S11  | 3                         | 26                        |
| S12  | 14                        | 28                        |
| S13  | 11                        | 31                        |
| S14  | 3                         | 26                        |
| S15  | 3                         | 39                        |
| S16  | 3                         | 39                        |
| S17  | 8                         | 34                        |
| S18  | 4                         | 38                        |
| S19  | 11                        | 31                        |
| S20  | 5                         | 37                        |

The following were the results when Type 2 and Type 4 responses were split according to error type.

- In terms of tense error, every subject made more Type 4 than Type 2 responses.
- In terms of pronoun error, 75% (15) of the subjects made more Type 4 than Type 2 responses, 15% (3) made the same number of Type 4 as Type 2 responses, and 10% (2) made more Type 2 than Type 4 responses.
- In terms of determiner-noun agreement error, 90% (18) of the subjects made more Type 4 than Type 2 responses, and 10% (2) made more Type 2 than Type 4 responses.
- In terms of subject-verb agreement error, 70% (14) of the subjects made more Type 4 than Type 2 responses, and 30% (6) made the same number of Type 2 as Type 4 responses.
- In terms of article error, 40% (8) of the subjects made more Type 4 than Type 2 responses, 50% (10) made the same number of Type 2 as Type 4 responses, and 10% (2) made only Type 2 responses.

These findings suggest that all the subjects possessed the Standard English grammatical knowledge in relation to tense, pronoun, determiner-noun agreement, and subject-verb agreement. This was so because no subject failed to identify all instances of these types of error (i.e., made a Type 2 response). The findings also indicate that not every subject possessed the Standard English grammatical knowledge in relation to article because 10% (2) of them did fail to identify the article errors (i.e., made a Type 2 response).

Regarding the Type 2 responses made in respect of the 5 types of error for which Type 4 responses were also made, it seemed unlikely that these Type 2 responses resulted from the subjects' ignorance of the relevant grammatical knowledge. Otherwise the subjects would not also have made Type 4 responses for the same types of error. Instead, these Type 2 responses could have been caused by three factors. The first was limitation of attention. Since the two narratives contained 42 instances of errors, the subjects might not have attended to all of them. The second factor was performance strategy. Since there was a number of instances under each type of error, especially under tense (18) and pronoun (15), the subjects might have chosen not to discriminate between all instances of the error of the same type. The third factor was the nature of error. Certain types of error might have been more difficult than others for the subjects to make a distinction. For example, article errors

appeared to be more difficult for the subjects than subject-verb agreement errors. This is because more subjects made Type 2 responses for the article error than the subject-verb agreement error, though the numbers of both types of error were the same (2).

Performance on the Location Task The subjects' performance on the Location Task was similar to their performance on the Discrimination Task. Their responses almost exclusively were of Type 2 and Type 4. In other words, the subjects either did not locate the errors, or successfully located them and indicated certainty about their judgments. The only exception was S6, who showed uncertainty in locating four erroneous uses of tense, having made Type 3 responses.

Each subject's totals of Type 4 responses were exactly the same as those found in his/her performance on the Discrimination Task (See Table 16, Appendix 24) except for S6's. This suggests that if subjects were able to discriminate between correct and erroneous linguistic features, then they were also able to locate erroneous features. This close link between the subjects' ability to discriminate between correct and erroneous linguistic features on the one hand, and their ability to pinpoint the erroneous features on the other, indicates that the subjects' ability to discriminate might not be based on their intuition, but rather on their explicit knowledge of English, whether the knowledge was correct according to Standard English or not. If the subjects had based their discrimination on the intuitive feeling or implicit knowledge of English, a discrepancy would be expected to have occurred between the performance on the Discrimination Task and that on the Location Task. In order to be so consistent in locating the erroneous features, the subjects could not do without a highly explicit or analysed knowledge of the target language.

Each subject's totals of Type 2 responses were also exactly the same as those found in his/her performance on the Discrimination Task (see Table 16, Appendix 24) except for those of S6. These Type 2 responses appeared to result from the subjects' failure to discriminate between the correct and erroneous features when performing the Discrimination Task. In other words, the subjects did not pinpoint the errors because they failed to distinguish between the correct and incorrect linguistic features in the first place.

Performance on the Correction Task The subjects' performances on the Correction Task were much more varied than those on the previous two tasks. All

four types of response were made. Table 18 displays each subject's totals of four types of response. It should be noted that the total numbers of four types of response under S8 and S19 were not 42, which was the total number of errors. This is so because S8 provided six corrections, and S19 provided three corrections, without indicating whether they were uncertain or certain about the corrections. Therefore, these responses were omitted.

| Table 18  |        |        |        |        |
|---|--------|--------|--------|--------|
| <i>A Summary of Totals of Four Types of Response to the Correction Task</i> |        |        |        |        |
| Subject   | Type 1 | Type 2 | Type 3 | Type 4 |
| S1  | 0      | 8      | 0      | 34     |
| S2  | 2      | 9      | 0      | 31     |
| S3  | 1      | 9      | 3      | 29     |
| S4  | 2      | 12     | 0      | 28     |
| S5  | 0      | 4      | 1      | 37     |
| S6  | 1      | 9      | 5      | 27     |
| S7  | 1      | 2      | 1      | 38     |
| S8  | 2      | 8      | 0      | 26     |
| S9  | 2      | 6      | 0      | 21     |
| S10   | 1      | 2      | 0      | 39     |
| S11   | 4      | 3      | 0      | 22     |
| S12   | 1      | 15     | 0      | 26     |
| S13   | 0      | 11     | 1      | 30     |
| S14   | 2      | 3      | 2      | 22     |
| S15   | 0      | 3      | 0      | 39     |
| S16   | 1      | 3      | 1      | 37     |
| S17   | 2      | 9      | 0      | 31     |
| S18   | 4      | 4      | 1      | 33     |
| S19   | 2      | 11     | 0      | 26     |
| S20   | 3      | 5      | 0      | 34     |

The Table shows that the number of Type 4 response (i.e., the subject successfully provided the target correction, and was certain about it) was in the majority, followed by Type 2 response (i.e., the subject did not provide the correction). Type 1 response (i.e., the correction provided was incorrect according to Standard English) and Type 3 response (i.e., the subject successfully provided the target correction, but was uncertain about it) were in the minority. When each subject's total numbers of Type 4 and Type 2 responses in this task were compared with those in the Discrimination Task (See Table 17) and with those in the Location Task (The figures were almost identical to those in the Discrimination Task), it was

found that 90% (18) of the subjects made fewer (ranging from one to eight) Type 4 responses in this task than those in the Discrimination Task and the Location Task, and 10% (two) made the same number of Type 4 response as that in the Discrimination Task and the Location Task. However, 85% (17) of the subjects made the same number of Type 2 response in this task as that in the Discrimination Task and the Location Task, and 15% (three) made slightly more (only one) Type 2 responses in this task than those in the Discrimination Task and the Location Task. It was obvious that the reduction in the number of Type 4 response in this task was mainly due to the appearance of Type 1 and Type 3 responses. However, the dominance of Type 4 responses suggest that for the majority of the errors which had been distinguished and located, the subjects were able to provide corrections according to Standard English, and were certain about the corrections made. The findings also indicated that in most cases, if the subjects did not distinguish and locate the errors, they did not provide corrections either. Only three subjects failed to provide corrections to three instances of error which they had distinguished and located.

A closer examination of the Type 1 responses revealed that most of these responses (22 out of 31 Type 1 responses, about 71%) were made when the subjects were correcting tense errors. Other error types, for which Type 1 responses were also made, included subject-verb number agreement (five), determiner-noun number agreement (three), and pronoun (one). No subject gave a Type 1 response when correcting article errors. This indicated that the subjects were mostly incorrect when trying to correct tense errors, but were accurate when correcting article errors.

The subjects' Type 1 responses relating to tense errors could be divided into three categories according to possible causes of their occurrence. **The first category** of the response appeared to be prompted by the subjects' individual understanding of the reference of time in the narratives chosen for the test. For example, when correcting Unit 21 (Refer to the 30 units into which the two narratives were semantically divided, p.174) "*since we have not borrow many bicycles, so we can't go by bike*", the majority of subjects who made Type 1 responses to this unit (S2, S7, S8, S9, S10, S11, S16, S17, S19, S20) regarded "since" as meaning "from time that" rather than "because", and thus used past perfect tense to replace "have not borrow", i.e., "had not borrowed". Another example was found in S4's and S19's Type 1 responses to Unit 15, "*and he tell me that now it is snowing in Beijing*". Instead of using "told", both used "tells", seemingly in an effort to keep consistent the use of tense in both the main clause and subordinate clause without taking into consideration that the action of "telling" had already taken place at the time of relating this particular event.

**The second category** of Type 1 response appeared to be caused by the subjects' imperfect procedural knowledge upon which they had relied during language production, both written and oral. The following are three examples.

(1). S4 corrected "...we *can't* go there by bike" (Unit 21) to "we *can't all went* there by bike".

(2). S17 corrected the word "walk" in "...we *walk* on our each way" (Unit 2) to "*have been walked*".

(3). S18 used "*fetch*" for "get" in "and the boy collect fuel and get water" (Unit 28). The correct answer should have been "fetched".

The third category of Type 1 responses appeared from the subjects' application of imperfect representations of English knowledge. The following are some examples.

(4). When correcting Unit 20 (i.e., "but we all *are* happy"), S18 suggested that "are" should be omitted. Thus the unit after correction became "but we all happy".

(5). S18 suggested that "we *walk* on our each way" (Unit 2) should be corrected to "went to our own way".

(6). S20 corrected "Soon after we *reach* there, ..." (Unit 24) to "after we *having* reached".

Four out of the five Type 1 responses made to correct subject-verb agreement errors appeared also to be based on the subjects' individual understanding of time reference in the narrative chosen for the test, this time Unit 9 (i.e., "*He do* something more and public works"). The four subjects (S2, S6, S11, S20) who made Type 1 responses when correcting this unit all regarded the event as happening in the past and thus used "did" instead of "does". However, according to the context, the verb seemed to refer not to a specific, but an habitual action. The fifth Type 1 response (made by S18) seemed to be caused by the imperfect internal representation of English grammar. When correcting Unit 30 (i.e., "We all *was* very happy, though we were all worn out"), this subject acted similarly to the correcting of Unit 20, in which the link verb "are" was omitted. After this correction, Unit 30 also read "We all very happy, ..."

The three Type 1 responses under determiner-noun number agreement errors all involved the correction of Unit 14 (i.e., "and there are several *wonder* there"). Here the use of Type 1 response appeared partly to be prompted by the subjects' ignorance of the meaning of the word "wonder", and partly by imperfect procedural knowledge. S9 and S12 used "wonderful places" and "there's a lot of wonder" respectively to replace "wonder". Thus, they showed a non-target understanding of the word. S11 employed "historic place and beautiful scenes". This interpretation seemed close to the target norm, but the failure to put "s" after "place" showed that S11's procedural knowledge still did not allow the retrieval of plural noun form in all contexts that required the marking of the noun in English.

Regarding the only Type 1 response under pronoun error, it was not clear why S3 chose to use "he" to replace "his" in Unit 10 (i.e., "*He was a* monitor of *his* class"). This is because after the replacement, the Unit read "He was a monitor of *he* class". It was unlikely that S3 did not know that pronoun "he" could not modify a

noun because, in correcting Unit 12 (i.e., "Among all *his* schoolmates *he* also be chosen into the team of their school of table tennis team"), the subject was able to use "her" to replace "his". The misuse could have been caused by S3's imperfect procedural knowledge.

The subjects made 15 Type 3 responses when performing the Correction Task. About 86% (13) of them were made when the subjects were correcting tense errors. The remaining two were given when the subjects were correcting the determiner-noun number agreement (one) and the article errors (one).

A closer examination of the subjects' Type 3 corrections of tense errors indicated that sometimes the subjects' uncertainty might not be caused by the correction per se, but by the linguistic structure of which the correction was a part. For example, when correcting Unit 20 (i.e., "but we all *are* happy"), S6 seemed to be uncertain about the position of the word "all" in the clause, but not about the correction "were" itself. This is because he first put "all" after "were", and then he changed his mind and put it before "were". Similarly, S3 seemed not to be concerned by his correction "were", but by the use of "all" in the clause. He tried to use "all of..." and then gave it up.

Sometimes it appeared that the subjects did feel uncertain about the corrections per se. Such corrections did not involve a simple change of forms, but change in the whole structure. The following are some examples.

(7). S3 corrected "Since we *separate* at the railway station" (Unit 2) to "since we *had separated*..."

(8). S5 corrected "and all of *them work* hard too" (Unit 26) to "They *were very busy*".

(9). S16 corrected "So we *divide* us into two groups" (Unit 22) to "So we *were divided into* two groups".

(10). S18 corrected "All of us *have* something to do at that time" (Unit 25) to "All of us *were busy doing something*".

In some cases, the cause for the subjects' uncertainty was not clear. Such instances can be found in S6's correction of four verb forms, viz. "eat", "play", "take" and "do", in Unit 29 (i.e., "And then we *eat* our lunch on the beach, and *play* cards, *take* photos, and *do* some other interesting thing") to "ate", "played", "took", and "did". Another example is S13's correction of one verb form "meet" in Unit 23 (i.e., "One went there by bike, and the other went there by bus, and *meet* at the gate of Agricultural Institute") to "met".

The only Type 3 correction of article error was made by S7, who was not sure whether the definite article "the" should be used before the noun which indicated position when correcting Unit 10 (i.e., "*He* was *a* monitor of *his* class"). The only Type 3 correction of determiner-noun number agreement error was made by S14. This subject's uncertainty about the correction seemed to be caused by the gender of "friend" in the narrative (i.e., "I tell something about my best girl *friends*": Unit 1).

She not only corrected the erroneous part of the unit ("friends"), but changed the gender of the "friend", using "boy friend".

**Performance on the Rule Statement Task** The subjects' performance on the rule statement task was also varied. Seventy-five percent (15) of the subjects made all 3 types of response. Twenty percent (four) made only Type 2 (i.e., the subject did not state the rule broken by the error located) and Type 3 (i.e., the subject stated the rule broken by the error located, and the rule was correct according to Standard English) responses. That is to say, these 4 subjects either stated the rules according to Standard English or did not state the rules at all. Five percent (one) made only Type 1 (i.e., the subject stated the rule broken by the erroneous linguistic feature located, but the rule was not correct according to Standard English) and Type 3 responses.

The numerical distribution of each subject's response of three types is presented in Table 19.

| Table 19   |        |        |        |
|--|--------|--------|--------|
| <i>A Summary of Totals of Three Types of Response to the Rule Statement Task</i> |        |        |        |
| Subject  | Type 1 | Type 2 | Type 3 |
| S1   | 0      | 18     | 24     |
| S2   | 3      | 8      | 31     |
| S3   | 5      | 9      | 28     |
| S4   | 4      | 12     | 26     |
| S5   | 0      | 8      | 34     |
| S6   | 2      | 11     | 29     |
| S7   | 3      | 2      | 37     |
| S8   | 2      | 12     | 28     |
| S9   | 1      | 6      | 22     |
| S10  | 3      | 0      | 39     |
| S11  | 4      | 3      | 22     |
| S12  | 1      | 15     | 26     |
| S13  | 2      | 33     | 7      |
| S14  | 3      | 3      | 23     |
| S15  | 0      | 3      | 39     |
| S16  | 1      | 4      | 37     |
| S17  | 0      | 17     | 25     |
| S18  | 3      | 8      | 31     |
| S19  | 1      | 14     | 27     |
| S20  | 2      | 5      | 35     |

The Table shows that 95% (19) of the subjects made more Type 3 than Type 1 or Type 2 responses. Only 5% (one) made more Type 2 than Type 1 or Type 3



responses. This indicates that, for most instances of error, the majority of the subjects were able to state the rules broken by these instances of error, and the rules stated were correct according to Standard English.

When the subjects were examined according to type of error, it was found that only 10% (one) of the subjects did not provide Type 3 responses to article error (See Table 16, Appendix 24), suggesting that they might be ignorant of the rules governing the use of English article. The remaining 90% (18) all made Type 3 responses to every type of error, despite the fact that all except S10 also made Type 2 responses to the same type of error. Therefore, it was hard to attribute the presence of these Type 2 responses to the subjects' ignorance of the rules which the errors had broken. It could have been because of the subjects' performance strategy. That is to say, the subjects might have chosen to state the rule according to the error type instead of instance by instance. It could also have been linked with the subjects' failure to perform the previous three tasks, as is revealed from an examination of the subjects' Type 2 responses in all four tasks, which showed that in most cases (76 out of the total 100) the number of Type 2 responses in four tasks was exactly the same (See Table 16, Appendix 24).

Type 1 responses most often occurred when the subjects were correcting determiner-noun number agreement errors (12 occurrences) and subject-verb number agreement errors (11 occurrences), followed by tense errors (10 occurrences) and article errors (5 occurrences). Pronoun errors received the fewest Type 1 responses (2 occurrences).

The subjects stated various rules when giving Type 1 responses. Roughly four subject rules were distinguished. **Subject Rule 1** appeared to be the result of the subjects' idiosyncratic understanding of time reference expressed in some units, though the rules stated were target-like (cf. the discussion of subjects' Type 1 responses under tense error in the Correction Task). For example, S2, S7, S10, S19 regarded the time referred to in the subordinate clause of Unit 21 (i.e., "Since we *have not borrow* many bicycles, so we can't go by bike") as past in the past, and stated the rule as such. Similarly, for both S2 and S20, the time referred in Unit 9 (i.e., "*He do* something more and public works") should have been past, and so they regarded the author of the narrative as breaching the rule governing the use of past tense in English.

**Subject Rule 2** comprised arbitrary statements of why the subjects corrected the located "errors" in the ways they did. For instance, S3, when stating the reason for correcting the "get" in Unit 28 as "fetch", which he mistakenly put as "frash", wrote that he felt that the meaning of "get" was not appropriate. And S4 was seldom specific in his statement of the rules. Part of the reason for his correction of "he do" as "she does" (Unit 9) was an "erroneous use of singular and plural number" (the author's translation; the original was in Chinese). Similarly, when explaining why he replaced "a monitor" in Unit 10 with "the monitor", he simply stated that the article

was wrongly used. Other similar examples include S7's statement as to why she corrected the subject-verb number agreement error in Unit 30 (i.e., "We all *was* very happy..."), S8's statement as to why she corrected the pronoun error in Unit 4 (i.e., "And from *his* letter, ...), S14's statement as to why she corrected the determiner-noun number agreement error in Unit 1 (i.e., "I tell something about my best girl *friends*"), and S18's statement as to why she corrected the article error in Unit 4 (i.e., "And from *his* letter, I was glad that I have *such* perseverant friend").

**Subject Rule 3** consisted of the statements of "rules" which were actually irrelevant to the rules broken by the errors corrected by the subjects. For S8, the reason for correcting the subject-verb number agreement error in Unit 30 (i.e., "We all *was* very happy, though we were all worn out") was the "inconsistent use of tense" (the author's translation; the original was in Chinese). The word "wonder" (Unit 14) was an uncount noun (i.e., a noun that cannot be treated as countable) for both S9 and S12, and this "rule" became the basis of their corrections "wonderful places", and "there's lots of wonder" respectively. S14 used "does" to replace the main verb "do" of Unit 9 (i.e., "*He do* something more and public works"), but regarded it as a tense error. S20 added "s" to the "boy" in Unit 28 (i.e., "and the *boy collect* fuel and *get* water"), and then stated that a collective noun should have been used. S13, S18, and S2 also produced similar rules for the correction of the same error.

**Subject Rule 4** comprised rules created by the subjects themselves. For example, S7 based her correction of "a monitor of his class" (Unit 10) to "monitor of her class" on the rule that "'a' does not have to be used before 'monitor'" (the author's translation; the original was in Chinese), S13 thought "the monitor" might be more appropriate because the use of indefinite article before "monitor" implied that there were many monitors in the class. For S10, the word "friend" must have been preceded by the article for her to add "a" to "such perseverant friend" in Unit 4. S16 regarded the passive voice as "better" than the active voice adopted in Unit 22 (i.e., "So we *divide* us into two groups"), for the reason that by using the passive voice, "the structure and its meaning would be more comprehensive" (the author's translation; the original was in Chinese).

Summary of subjects' performances on the four tasks The subjects generally exhibited a highly analytical knowledge of Standard English grammatical rules. This was reflected in the ability of the majority of the subjects to (i) discriminate between the correct and five types of grammatical errors committed during their oral production, (ii) locate all five types of grammatical errors, (iii) provide target corrections to most of the pinpointed erroneous linguistic features under all five types of grammatical errors, and (iv) state target rules broken by most of the corrected erroneous linguistic features under all five types of grammatical errors.

Limitation of attention, performance strategy, and the nature of error type might have been responsible for the subjects' failure to discriminate between some instances of correct and erroneous linguistic features under all five types of error. This failure appeared to be related to the subjects' inability to locate the same instances of erroneous linguistic features.

The correction of the located errors appeared to be influenced by varying factors. It could have been the subjects' idiosyncratic understanding of the meaning of the erroneous linguistic features. It could have been the subjects' idiosyncratic understanding of the meaning underlying the structure of which the erroneous linguistic feature was a part. It could have been the subjects' underdeveloped procedural knowledge which was responsible for the actual English production.

The statements of the rules broken by the errors showed that the subjects' knowledge of English rules, though highly analytical, was not completely target according to Standard English. Sometimes the subjects' idiosyncratic understanding of underlying meaning of the structure might have influenced the selection of rules which the subjects stated. The subjects might have stated such "rules", though these were not relevant to the rules broken by the errors. The subjects might also have resorted to arbitrary or self-created rules.

## 8.2 *Oral English development in terms of "function-form" relationships*

The subjects' oral English development was investigated by having each of the subjects orally present two narratives at an interval of every three to four weeks. The two narratives had to deal with two different topics. One was about an event which the subject had personally experienced, and the other about an event which the subject's friend or somebody he/she knew had experienced. The subjects' oral English production at each elicitation session was described in terms of the relationships between the linguistic forms used by the subjects and two types of function, i.e., discourse functions of "foreground" and "background", and case function of "temporality".

"Foreground" by definition was "any clause that pushes the event line forward" (Kumpf, 1984:135), while "background" was defined by Kumpf (1984) as "those clauses which elaborate on the event line" (p.133). The following is an example illustrating what Kumpf meant by "foreground" and "background" in a narrative. The passage is from Kumpf (1984). The italicised clauses are what Kumpf called "foregrounded clauses". The standard type clauses are background clauses.

"First time Tampa have a tornado come to.

Was about seven forty-five.

Bob go to work,

n I was inna bathroom

5 and ... a ... tornado come

- shake everything.*  
*Door was flyin open,*  
*I was scared,*  
*Hanna was sittin in window...*  
 10 *Hanna is a little dog.*  
*French poodle.*  
*I call Baby.*  
*Anyway, she never wet bed,*  
*She never wet anywhere.*  
 15 *But she was so scared*  
*an cryin.*  
*run to the bathroom,*  
*come to me,*  
*and she tinkle, tinkle, tinkle all over me (laugh)*  
 20 *She was so scared.*  
*I see somebody throwin a brick onna trailer*  
*wind was blowin so hard*  
*ana light... outside street light was on*  
*oh I was really scared.*  
 25 *An den second stop ("and then in a second it stopped")*  
*So I try to open door*  
*I could not open*  
*I say, 'Oh, my God, What's happen?'*  
*I look window // awning was gone"* (Kumpf, 1984, pp.135-136)

"Temporality" referred to the notion of time expressed in the various types of aspect and tense of English verbs. Reference to past time was the focus of investigation in this study.

Altogether 14 elicitation sessions were conducted. The first session was conducted prior to the subjects' English learning at the University, and the remaining 13 were conducted after they began English learning at the University at an interval of three to four weeks. Altogether 550 speech samples were collected (Two speech samples were collected for each subject in each elicitation session. But S9, S10, S11, and S12 did not take part in the 2nd elicitation session, and S16 did not take part in the 11th elicitation session). However, not every speech sample could be called a narrative because sometimes the subjects mentioned events without elaborating. In such cases, only comments on the events were given despite the present author's requests for more detail. Since there was no "event line" in such speech samples, the linguistic forms used were all regarded as expressing only the background information. Out of 550 speech samples collected, there were 98 which had no linguistic form expressing the foreground information. However, these samples were still analysed, and their results will be displayed along with the 452 samples which contained an "event line".

The results were of three types. The first concerned the linguistic forms employed to express the discourse functions of "foreground" and "background". The second consisted of the means, both linguistic and non-linguistic, used to refer to past time in the narratives. The third comprised the production strategies adopted during oral presentation.

#### *i) Linguistic forms used to express foreground and background information*

Three types of linguistic forms were examined to see how the subjects used them orally to express the foreground and the background information in narratives. The

three types of linguistic forms were sentence types, types of verb, and types of verb form.

Sentence types used to express foreground and background information in narratives The sentence types used by the subjects throughout the data collection period could be divided into three categories, viz., complete sentences, non-complete sentences, and sentence patterns.

The terms "complete sentences", "non-complete sentences" and "sentence patterns" need a word of explanation. Complete sentences refer to those sentences which consist of a grammatical subject and at least a finite verb. Non-complete sentences refer to those sentences which do not have a completed proposition, e.g., without subject or verb, or are unfinished in some way. Sentence patterns here refer to the fixed arrangements of linguistic elements, such as imperative and rhetorical question.

Table 20 presents the sentence types used by the subjects to express both foreground and background information in each of the 14 elicitation sessions. Each type of sentence listed in each session was followed by the number of occurrences for that type of sentence, and by the percentage of the total used at that session. The numbers and percentages of the sentence types were arranged in descending order. Due to the bulk of the Table, it is shown in Appendix 25. Part of the Table presented below shows the types of sentence used by S2 in the first four elicitation sessions.

| <i>Excerpt from Table 20 (S2)</i>  |             |   |  |   |   |
|--|-------------|---|--|---|---|
| <i>Types of Sentence Used by Subjects to Express Foreground and Background Information</i> |             |   |  |   |   |
| Subj.  | DF          | T1  | T2   | T3  | T4  |
| S2   | Fore-ground | sv 1/50<br>cs 1/50                                  | svo 4/57<br>cs 2/29<br>sv 1/14                                 | cs 1/100                                  | sv 2/50<br>svo 2/50                               |
|  | Back-ground | sv 5/42<br>cs 3/25<br>nvc 2/17<br>lv 1/8<br>svo 1/8 | svo 3/27<br>sv 2/18<br>cs 2/18<br>lv 2/18<br>es 1/9<br>nvc 1/9 | sv 3/23<br>svo 3/23<br>cs 3/23<br>lv 3/23 | cs 7/53<br>sv 3/23<br>svo 1/8<br>lv 1/8<br>ic 1/8 |

Legend: Subj. = subject  
 DF = discourse function  
 T1, 2, etc. = the first, the second, etc. elicitation sessions  
 sv = subject+verb(+other elements)  
 cs = complex sentence  
 nvc = sentence without verb  
 lv = subject+link verb+other elements  
 svo = subject+verb+object(+other elements)  
 es = emphatic structure  
 ic = unfinished sentence

The results displayed in Table 20 are discussed under three sub-headings. The first is the syntactic structure of the sentences used, the second is distribution of

sentence types used to express "foreground" and "background" information, and the third is the occurrence of new types of sentences in the subjects' oral production.

**Syntactic structures of three categories of sentences** Seven main types of syntactic structure were distinguished under the category of "complete sentences". They are listed below. The phrase " + other elements" in the brackets represent optional additions to the relevant sentence.

- subject + link verb "to be" + other elements (lv), e.g. "He is my new friend in the university" (Produced by S2 in the 3rd elicitation session),

- subject + verb (+ other elements) (sv), e.g. "We stand behind her house..." (Produced by S3 in the 2nd elicitation session),

- subject + verb + object (+ other elements) (svo), e.g. "I'll tell a story about my childhood" (Produced by S4 in the 1st elicitation session),

- negative sentence (ng), e.g. "She hadn't write to me for over two month..." (Produced by S9 in the 4th elicitation session),

- interrogative sentence (ir), e.g., "...why are you playing in the moon?" (Produced by S10 in the 14th elicitation session),

- sentences in passive voice (pv), e.g. "...I have been trained for about half a month in Zhangzhou teachers' college..." (Produced by S 11 in the 3rd elicitation session)

- object + subject + verb (osv), e.g. "...only this scenery I like best" (Produced by S13 at the 12th elicitation session), and

- there + be in various inflectional forms + other elements (tb) e.g. "Last month, there are something, there are some unhappy thing take place in my dormitory..." (Produced by S2 in the 6th elicitation session).

The types of sentence listed above are all simple sentences, i.e., sentences with only one finite verb (Wang, 1988:67) In their oral production, the subjects also used a lot of complex sentences (cs), which were invariably the combinations of the syntactic structures described above. It should be noted that complex sentences were treated as an independent sentence type in the examination of the sentence types used by the subjects to express "foreground" and "background" information. The reasons for so doing were (i) the separation of sentences for analysis was based on semantic criteria, i.e., whether they belonged in "foreground" or "background" information, and so complex sentences had to be selected in their own right, and (ii) although a complex sentence consists of a number of clauses expressing different concepts, these concepts are interrelated and thus may be treated as an integrated one.

Two characteristics were found in the syntactic structures of the complete sentences. First, the word orders of the sentences were all correct according to Standard English at their first occurrence in oral production. This was true not only of those types that were used in the first elicitation period (prior to English learning

at the University), but also of those types that occurred after the subjects began English learning at the University. Second, the structures did not undergo any change over time. In other words, these structures did not pass through the developmental sequences like those found in the naturalistic L2 learners when they were learning to express the concepts such as interrogation and negation in the target language (Cazden, et al. 1975; Schumann 1979). This suggests that the subjects had the explicit knowledge of these syntactic structures before they used these structures in their oral production in this project.

The syntactic structures of the non-complete sentences were of the same types as those of the complete sentences, but with some grammatical elements missing. Four types of non-complete sentence were distinguished. They were:

- simple sentence without subject (ns), e.g., "...*make good friends again.*" (Produced by S4 at the 2nd elicitation session),
- simple sentence without verb (nvc), e.g., "He always *kind* to anybody" (Produced by S2 at the 2nd elicitation session),
- complex sentence without main clause (nm), e.g., "I think, *even though you, euh, you don't euh, need the money back*, and I thought..." (Produced by S3 at the 13th elicitation) (There is no main clause in this sentence).
- unfinished sentences, both simple and complex (ic), e.g., "The day before yesterday, the film has been developed, and looks, (pause) it don't, euh, how to say,..." (Then the subject switched to Chinese) (Produced by S5 at the 6th elicitation).

The syntactic structures of the sentence patterns used, which have a special purpose such as expressing feelings, special emphasis rather than simply giving information, were:

- imperative, i.e., verb + (other elements) (ip), e.g., "But suddenly my sister cried, '*don't, don't close it!*'" (Produced by S15 in the 4th elicitation session)
- rhetorical question (rq), asked to make a statement rather than get an answer, e.g. "Don't you remember we have two lessons this afternoon in Art Building..." (Produced by S16 in the 9th elicitation session)
- exclamation (el), e.g., "What an unforgettable evening it is for me" (Produced by S17 in the 2nd elicitation session), and
- emphatic structure, i.e., It is (was) + noun (pronoun) + that (who) + clause (es), e.g. "It was you that struck euh, our mother, ..." (Produced by S7 in the 8th elicitation session).

**Distribution of sentence types used to express "foreground" and "background" information** The subjects were uniform in their choice of sentence types to express foreground information. One characteristic of this uniformity is the use by each subject at each elicitation session of at least one or two of the following three types of complete sentence: complex sentence (cs), subject + verb (+ other elements)

(sv), and subject + verb + object (+ other elements) (svo). In addition, the instances of occurrence of these types of sentence were *invariably* more than those of other types of sentence that were also used to express foreground information, viz. negative sentence and sentence in the passive voice. Another characteristic of the uniformity was that no subject used subject + link verb + other element (lv), there + be in various inflectional forms + other elements (tb), interrogative sentence (ir), and any of the other four sentence patterns identified above to express foreground information. These latter types of sentence were used only to express background information.

Regarding those types of sentence that were used less frequently to express foreground information, negative sentence was used more often than sentence in the passive voice. More specifically, 85% (17) of the subjects used negative sentence to express foreground information, and 30% (6) of the subjects used sentence in the passive voice to express foreground information.

Four types of non-complete sentences, viz. simple sentence without subject (ns), simple sentence without verb (nvc), complex sentence without main clause (nm), and unfinished sentences, both simple and complex (ic), were also used to express the foreground information. However, there were generally few instances of their occurrence. Twenty percent (4) of the subjects never used these types of sentence. Seventy percent (14) used one to four instances of these types of sentence during the 14 elicitation sessions. Ten percent (2) used them five to eight times. Their first occurrence also tended to happen in later elicitation sessions. Ninety percent (18) of the subjects used them for the first time after the third elicitation session. Ten percent (two) used them for the first time at the second elicitation session.

There was also a high degree of uniformity in choice of certain types of complete sentence to express background information. At least two or three of the following types of sentence were used by every subject at every elicitation session: complex sentence, subject + verb (+ other elements), subject + verb + object (+ other elements), and subject + link verb "to be" + other elements. The total occurrences of these types of clause were invariably more than those of any other types of complete sentence. The use of non-complete sentences and the four sentence patterns identified above was also much less.

It was noted also that subject + link verb "to be" + other elements (lv), interrogative sentence (ir), there + be in various inflectional forms + other elements (tb), and the four sentence patterns identified above were used to express background information only, never foreground information. The occurrences of these types of sentence appeared to be determined by the content of narratives, which varied from session to session.

**Occurrence of new types of sentences** When the types of sentences not used at every elicitation session were examined diachronically, it was found that their



occurrence in the subjects' oral production did not happen at the same time. The tendency was that as the learning proceeded, more and more types were employed in the speech production. This tendency is summarised in Table 21.

| <p style="text-align: center;"><i>Table 21</i></p> <p style="text-align: center;"><i>A Summary of Occurrence of New Types of Sentence in the Oral Production</i></p> |      |                     |      |
|--|------|---------------------|------|
| Subject  | T(F) | T(R)                | T(L) |
| S1   | T2   | T4, 5, 6, 7, 8, 9   | T10  |
| S2   | T2   | T3, 4, 5, 6, 10, 11 | T13  |
| S3   | T2   | T5, 6, 7            | T11  |
| S4   | T2   | T3, 4, 5, 8         | T14  |
| S5   | T2   | T3, 6               | T12  |
| S6   | T2   | T5, 6, 7, 11        | T14  |
| S7   | T2   | T4, 7, 8, 9         | T10  |
| S8   | T2   | T3, 4,              | T8   |
| S9   | T3   | T4, 5, 6, 9         | T12  |
| S10  | T4   | T6, 7, 8            | T14  |
| S11  | T3   | T8, 9               | T10  |
| S12  | T3   | T6, 8, 10           | T14  |
| S13  | T2   | T5, 7, 8            | T10  |
| S14  | T2   | T3, 6, 7            | T14  |
| S15  | T2   | T3, 4, 7, 10, 13    | T14  |
| S16  | T2   | T5, 6               | T7   |
| S17  | T2   | T3, 4, 5, 6, 10     | T13  |
| S18  | T2   | T3, 7, 8            | T9   |
| S19  | T2   | T4, 5, 6            | T7   |
| S20  | T2   | T3, 6, 7, 9, 10     | T11  |

Legend: T(F) = elicitation session at which the subject used the first of new types of sentences he/she used during the data collection period  
 T(R) = elicitation sessions at which the subject used the rest of new types of sentences he/she used during the data collection period, except the last of them  
 T(L) = elicitation session at which the subject used the last of new types of sentences he/she used during the data collection period  
 T2, 3, 4, ... 13 = the 2nd, 3rd, 4th, ... 13th elicitation sessions

Table 21 shows that at the second elicitation session, 80% (16) of subjects began to use the types of sentences which they did not use at the first elicitation session. 20% (4) of the subjects began to use new types of sentences at the third or the fourth elicitation session. However, since these four subjects did not take part in the second elicitation, it was not known whether they would have used new types of sentences in this session or not. Judging from other subjects' performance, it was most likely that they would have done so.

The subjects were varied in using orally the rest of their new types of sentences. However, when the elicitation sessions at which the new types of sentences occurred were examined according to the semester in which the sessions fell (i.e., 2nd - 4th elicitation sessions were conducted in the first semester, 5th - 9th sessions in the second, and 10th -14th sessions in the third), it was found that 70% (14) of the subjects used new types of sentence orally (except the last new type) during the first and the second semesters (i.e., between 3rd - 9th elicitation sessions), and the remainder did so over the course of all three semesters. As to the last new type of sentence, 80% (16) of the subjects used it orally during the third semester (i.e., between 10th -14th elicitation session). Of these, six used their last new type of sentence at the last (14th) elicitation session. Twenty percent (4) used their last new type of sentence during the second semester (i.e., between 5th - 9th elicitation session). These findings suggest that despite the variations in the occurrence of new types of sentence in the subjects' English oral production, the first and the second semesters, and early third semester, appeared to be period in which most of the new types of sentence were used.

**Summary of the Sentence types used to express foreground and background information** The sentences used by the subjects during the 14 elicitation sessions could be divided into three categories, viz. "complete sentence", "non-complete sentence", and "sentence pattern". The syntactic structures of the sentences belonging in "complete sentence" and "sentence pattern" were all correct according to Standard English at their first occurrence in the subjects' oral production in this project. In addition, no diachronic structural change could be observed in these syntactic structures, suggesting that the subjects had possessed the knowledge about the syntactic structures prior to using them in their oral production in this project. The syntactic structures of sentences belonging in "non-complete sentence" were of the same types as those of sentences belonging in "complete sentence", with some grammatical elements missing.

All the subjects consistently used certain types of complete sentence to express foreground and background information. The types of sentence consistently used to express foreground information were: complex sentence, subject + verb (+ other elements), and subject + verb + object (+ other elements). These same types of sentence, plus subject + link verb + other elements, were also consistently used to express background information. Subject + link verb + other elements (except in complex sentences), interrogative sentence, there + be in various inflectional forms + other elements, and the four sentence patterns identified above were never used to express foreground information. They were exclusively used to express background information.

Total occurrences of the consistently used complete sentences were invariably more than those of other types of sentence (complete, non-complete, and sentence

pattern) in both foreground and background information. Coordinate and negative sentences were used more often than sentences in the passive voice to express foreground information. The content of narratives appeared to determine the subjects' employment of the complete sentences less frequently used, non-complete sentence and sentence patterns to express background information.

The types of sentence which were not consistently used in every elicitation session occurred in the subjects' oral production gradually over time. Most subjects showed the ability to use new types of sentence in their oral production in all three semesters; the remainder showed this ability only in the first and the second semesters.

Types of verb used in foreground and background sentences The types of verb used by the subjects can be classified into two categories: dynamic and stative. According to Wang (1988: 364-365), the verbs that express actions and can be used in progressive aspect are called dynamic verbs, e.g., speak, walk, show, take, etc.; while the verbs that express the state of affairs are called stative verbs, e.g., believe, have, belong, contain, etc. The stative verbs are usually not used in progressive aspect.

Table 22 listed the following information about subjects' employment of verb types: (i) type of verb used at each session to express foreground and background information, (ii) number of occurrences of each verb type at each session, and (iii) percentage of the number in the total used in the session to express a particular discourse function. Due to the bulk of the Table, it is shown in Appendix 26. Part of the Table is presented below, showing the types of verb adopted by S2 in the first four elicitation sessions.

| <i>Excerpt from Table 22 (S2)</i>  |    |                    |               |               |              |               |
|--|----|--------------------|---------------|---------------|--------------|---------------|
| <i>Types of Verb Used by Subjects to Express Foreground and Background Information</i> |    |                    |               |               |              |               |
| Subj.  | DF | VT                 | T1            | T2            | T3           | T4            |
| S2   | F  | dynamic<br>stative | 4/100         | 11/100        | 2/67<br>1/33 | 9/100         |
|  | B  | dynamic<br>stative | 13/65<br>7/35 | 10/67<br>5/33 | 9/53<br>8/47 | 19/73<br>7/23 |

Legend: Subj. = subject  
DF = discourse function  
VT = verb type  
T1, 2, etc. = the first, second, etc. elicitation sessions

It can be seen from Table 22 that the subjects again showed a high degree of uniformity in employing verb types when expressing foreground and background information. This uniformity was reflected in the distribution of both types of verbs used to express both the functions. In all 14 elicitation sessions, the numbers of

dynamic verbs in the foreground sentences were almost invariably much larger than those of stative verbs. In about 15% (69) of the 452 narratives with both foreground and background information, the type of verbs used in foreground sentences was one hundred percent dynamic. Of all subjects, only S12 used more stative verbs than dynamic verbs once at the 12th elicitation session. Even in that elicitation session, it was because S12 did not use any dynamic verb that resulted in the more use (only one instance) of stative verb. In background sentences, the differences between the numbers of dynamic and stative verbs were generally not so striking as those in foreground sentences. Sometimes the numbers of dynamic verbs were larger than those of stative verbs, and sometimes vice versa.

The stative verbs used by the subjects when expressing foreground information need special attention. Since "foreground" referred to the sentences that pushed the event line forward, the verbs required were naturally those that expressed actions. Therefore, only dynamic verbs were expected in foreground sentences. However, every subject (some more than others) used stative verbs when expressing foreground information.

A closer examination of the stative verbs used in foreground sentences revealed that these stative verbs were all the various inflectional forms of the link verb "to be". In addition, they all occurred in complex sentences. These complex sentences not only pushed forward the line of story, but in the meantime described other details in relation to the actions. The following are some examples.

(11). "...then *when it was nine o'clock*, I put out my wrist to see what time was it" (produced by S1 at the 2nd elicitation session).

(12). "...the next morning when he get up, he saw *everything was there* and without miss" (produced by S2 at the 10th elicitation session).

(13). "...then when I on the train I cannot find any seat because *it was very crowd/it...*" (produced by S20 at the 10th elicitation session).

(14). "...then he ask me *whether I was a teacher...*" (produced by S15 at the 10th elicitation session).

(15). "...when we ask *where the quilt is*, he cried..." (produced by S16 at the 1st elicitation session in the 2nd narrative)

**Summary of types of verb used in foreground and background sentences**  
The functions of "foreground" and "background" in the narrative appeared to exert a selective impact on the subjects' use of types of verbs. Invariably in the 14 elicitation sessions, the dominant type of verbs used in foreground sentences was dynamic. In background sentences, both dynamic and stative verbs were used more evenly. The stative verbs used in foreground sentences all belonged in the link verb "be", and they only occurred in complex sentences.

Types of verb form used in foreground and background sentences The types of verb form used by the subjects could be divided into target and non-target. The

judgment of whether a verb form was target or non-target in this study was based on the norm of Standard English.

**Use of target verb forms in foreground and background sentences** The types of target verb forms used could be classified as follows:

- base form, e.g., find, ask,
- regular past form, e.g., lived, wanted,
- irregular past form, e.g., saw, went,
- the negative, the interrogative, and the passive voice of verbs in both simple present tense and simple past tense, e.g., do not/did not ask, Do/did you ask, is/was asked,
- various inflectional forms of the link verb "to be", both in simple present tense and simple past tense, e.g., is/was), are/were,
- the negative forms of the various inflectional forms of the link verb "to be", both in simple present tense and simple past tense, e.g., is not/was not, are not/were not,
- (present and past) modal verb+base form, e.g., may/might do, can/could go,
- the negative, the interrogative and the passive voice of the (present and past) modal verb+base form, e.g., may not/might not go, Can/Could you go, may be/might be asked,
- verbs in (present and past) perfect aspect, e.g., have/had gone,
- the negative and the passive voice of verbs in (present and past) perfect aspect, e.g., have not/had not asked, have not been/had not been asked,
- verbs in (present and past) progressive aspect, e.g., is/was looking, are/were looking, and
- patterns such as "have to", "has to" and "had to".

*Impact of discourse functions on the use of target verb forms* Table 23 provides the following information about subjects' adoption of the target verb forms listed above:

- types of verb form employed at each session to express foreground and background information,
- number of occurrences of each type of verb form, and
- percentage of the number in the total used in the session to express a particular discourse information.

Due to its bulky size, the Table is presented in Appendix 27. The following is part of the Table, showing the target verb forms produced by S2 in the first four elicitation sessions.

| <i>Excerpt from Table 23 (S2)</i>  |             |  |   |  |  |
|--|-------------|--|---|--|--|
| <i>Target Verb Forms Used by Subjects to Express Foreground and Background Information</i> |             |  |   |  |  |
| Subj.  | DF          | T1   | T2  | T3   | T4   |
| S2   | Fore-ground | ir 2/50<br>bf 1/25<br>pf^ 1/25   | ir 4/50<br>bf 3/37.5<br>pg^ 1/12.5  | ir 2/66.6<br>pvc^ 1/33.3                         | ir 2/40<br>bf 2/40<br>hvb 1/20   |
|  | Back-ground | bf 4/23.5<br>mn^ 3/17.6<br>ir 2/11.7<br>cp* 2/11.7<br>cp^ 2/11.7<br>mb* 1/5.9<br>ng^ 1/5.9<br>mn* 1/5.9<br>pf^ 1/5.9 | bf 4/31<br>cp* 4/31<br>ir 1/7.6<br>mb* 1/7.6<br>pf^ 1/7.6<br>pf* 1/7.6<br>ig^ 1/7.6 | bf 6/54.5<br>cp* 2/18.1<br>mb* 2/18.1<br>cp^ 1/9 | bf 7/31.8<br>ir 5/22.7<br>mb* 4/18.1<br>cp^ 3/13.6<br>cp* 2/9<br>ng^ 1/4.5 |

Legend: Subj. = subject  
 DF = discourse function  
 T1, 2, etc. = the first, the second, etc. elicitation sessions  
 ir = irregular verb in the simple past tense  
 bf = base verb form  
 pf^ = verb in past perfect aspect  
 mn^ = past modal verb in negative form  
 cp\* = present link verb "to be"  
 cp^ = past link verb "to be"  
 mb\* = present modal verb + base verb form  
 ng^ = didn't + base verb form  
 mn\* = present modal verb in negative form  
 pg^ = verb in past progressive aspect  
 pf\* = verb in present perfect form  
 ig^ = verb in interrogative form in the simple past tense  
 pvc^ = past link verb in passive voice  
 hvb = have to + base verb form

The functions of "foreground" and "background" again appeared to exert a selective impact on the subjects' choice of verb forms to express both functions. The most frequently used target verb forms in foreground sentences were irregular past form, base form and regular past form. For every subject at every elicitation session, at least one of the above three forms (quite often two out of the three) was used. In addition, the total occurrences of these three forms mostly occupied the largest percentage in the total occurrences of all verb forms used to express foreground information at each elicitation session.

The most frequently used verb forms in background sentences were irregular past form, base form, and various inflectional forms of link verb "to be" in both simple present tense and simple past tense. Invariably at least two (quite often all three) of these verb forms were employed by every subject at every elicitation session when backgrounded information was expressed. Similar to the use of verb forms in

foreground sentences, the total occurrences of these three forms most often occupied the largest percentage in the total occurrences of all verb forms used to express background information at each elicitation session.

Thus, the target verb forms that were consistently used by all subjects over time to express foreground and background information were irregular past form, base form, regular past form, and various inflectional forms of the link verb "to be" in both simple present tense and simple past tense.

Another characteristic of the subjects' use of verb forms was that they all used more types of verb form in background sentences than in foreground sentences, both synchronically and diachronically. The synchronic tendency to use more types of verb form to express backgrounded information is apparent in Table 23 (see Appendix 27). The diachronic tendency is shown in Table 24 below, which has summarised total numbers of the target verb form types (not including the most consistently used verb form types) used by each subject in the 14 elicitation sessions to express both foreground and background information.

| Table 24  |            |            |
|---|------------|------------|
| <i>A Summary of Total Numbers of Target Verb Form Types Used in Expressing Foreground and Background Information in All 14 Elicitation Sessions</i> |            |            |
| Subject   | Foreground | Background |
| S1  | 5          | 20         |
| S2  | 12         | 25         |
| S3  | 8          | 28         |
| S4  | 14         | 26         |
| S5  | 13         | 18         |
| S6  | 10         | 18         |
| S7  | 12         | 22         |
| S8  | 8          | 20         |
| S9  | 9          | 27         |
| S10   | 4          | 16         |
| S11   | 13         | 21         |
| S12   | 2          | 19         |
| S13   | 4          | 17         |
| S14   | 10         | 23         |
| S15   | 13         | 24         |
| S16   | 10         | 29         |
| S17   | 13         | 28         |
| S18   | 7          | 17         |
| S19   | 6          | 26         |
| S20   | 9          | 27         |

Table 24 indicates that in the 14 elicitation sessions, the subjects all used more types of verb form in background sentences than in foreground sentences, though they differed greatly in the total number of verb form types used.

*Occurrence of new target verb forms* A careful examination of Table 23 (Appendix 27) also revealed that the addition of new types of target verb form into the subjects' oral repertoire did not take place all at once. The process of using more types of verb forms in the oral production was much the same as that of using more types of sentences. As the learning proceeded, the subjects were able to use more and more types of verb forms in their oral production. Table 25 displays the following information about the subjects' use of new target verb forms in their oral production: (i) the elicitation session at which a subject first used new target verb form(s), (ii) the elicitation sessions at which a subject used the rest of new target verb forms he/she used during the 14 elicitation sessions, except the last of the new target verb forms, and (iii) the elicitation session at which a subject used the last of the target new verb forms he/she used during the 14 elicitation sessions.

| Table 25   |      |                                  |      |
|--|------|----------------------------------|------|
| <i>A Summary of Occurrence of New Target Verb Forms in the Oral Production</i> |      |                                  |      |
| Subject  | T(F) | T(R)                             | T(L) |
| S1   | T3   | T4, 5, 7, 8, 10                  | T11  |
| S2   | T2   | T3, 4, 5, 6, 7, 9, 10, 12        | T13  |
| S3   | T2   | T3, 4, 5, 6, 7, 8, 9, 11         | T12  |
| S4   | T2   | T3, 4, 5, 6, 7, 9, 10, 13        | T14  |
| S5   | T2   | T3, 4, 6, 7, 8, 13               | T14  |
| S6   | T2   | T4, 5, 6, 7, 8, 11               | T13  |
| S7   | T2   | T3, 4, 5, 7, 9, 10               | T13  |
| S8   | T2   | T3, 4, 6, 7, 8, 10               | T13  |
| S9   | T4   | T5, 6, 7, 8, 9, 10               | T13  |
| S10  | T3   | T4, 5, 6, 7, 8, 10               | T14  |
| S11  | T3   | T4, 5, 6, 9                      | T14  |
| S12  | T3   | T4, 5, 6, 7, 11, 12, 13          | T14  |
| S13  | T2   | T3, 4, 5, 7, 9                   | T11  |
| S14  | T2   | T3, 4, 5, 6, 7, 8, 9, 13         | T14  |
| S15  | T3   | T4, 6, 9, 12                     | T14  |
| S16  | T2   | T3, 4, 5, 6, 7, 9, 12            | T14  |
| S17  | T2   | T4, 5, 8, 9, 11, 12              | T14  |
| S18  | T2   | T3, 4, 5, 6, 7, 9, 13            | T14  |
| S19  | T2   | T3, 4, 5, 6, 7, 9, 10, 12        | T14  |
| S20  | T2   | T3, 4, 5, 6, 7, 8, 9, 10, 11, 12 | T14  |

Legend: T(F) = the elicitation session at which a subject first used new verb form(s)  
 T(R) = the elicitation sessions at which a subject used the rest of new verb forms he/she used during the 14 elicitation sessions, except the last of the new verb forms  
 T(L) = the elicitation session at which the subject used the last of the new verb forms he/she used during the 14 elicitation sessions  
 T2, 3, 4, ... 14 = the 2nd, 3rd, 4th, ... 14th elicitation sessions



Table 25 shows that 70% (14) of the subjects began to use new target verb forms right from the second elicitation session. Twenty-five percent (five) did so from the third, and 5% (one) from the fourth. Of those who began to use new target verb forms from the third and the fourth elicitation sessions, 4 did not take part in the second elicitation session, and so it is impossible to know whether they would have used new forms if they had taken part in elicitation session. Ninety percent (18) of the subjects used the rest of the new target verb forms (except the last one(s)) during all three semesters. The exceptions were S11 and S13, who adopted the rest of the new target verb forms between the end of first semester and the second semester (i.e., between 4th and 9th elicitation sessions). All subjects used their last new target verb form(s) in the third semester (i.e., between 10th and 14th elicitation sessions). Sixty percent (12) of them did so at the 14th elicitation session. These findings suggest that most subjects' oral English ability to describe actions began to develop within a month after they began English learning at the University. The development of this ability extended well into the third semester.

**Use of non-target verb forms in foreground and background sentences** The non-target verb forms could further be classified into the following seven categories:

- (i) misuse in number agreement, which included
  - a. 3rd person singular present+base verb form, e.g., he ask,
  - b. singular (plural) subject+plural (singular) verbs or auxiliaries, e.g., I is, plural noun + has,
- (ii) unmarking after auxiliaries, e.g., am (is, are) + base verb forms, such as ask, rob,
- (iii) irregular past form after the infinitive marker "to", auxiliaries, modal verbs, and various inflectional forms of the link verb "to be", e.g., to went, did not went, can went, is went,
- (iv) "-ing form" after the infinitive marker "to" and modal verbs, e.g., to going, can going,
- (v) combination of misuse in number agreement and unmarking after auxiliaries, e.g., first person pronoun + has + base verb form,
- (vi) combination of misuse in number agreement and irregular past form after the infinitive marker "to", auxiliaries, modal verbs, and link verbs, e.g., third person singular + have + irregular verb in the past tense, and
- (vii) miscellaneous non-target forms such as "must+adjective" and "will to+base form".

Each category of the non-target verb forms was further divided into a number of sub-types on the basis of the specific verbs misused. Details of these sub-types are shown in the legend to Table 26 (see Appendix 28).

*Impact of discourse functions on the occurrence of non-target verb forms* Table 26 summarises the occurrences of the sub-types of non-target verb forms in both foreground and background sentences at the 14 elicitation sessions. Due to its bulky size, the Table is displayed in Appendix 28. The following is part of the Table, showing the non-target verb forms produced by S2 in the first four elicitation sessions.

| Excerpt from Table 26 (S2)  |             |                          |             |                         |  |
|---|-------------|--------------------------|-------------|-------------------------|--|
| Non-Target Verb Forms Used by Subjects to Express Foreground and Background Information |             |                          |             |                         |  |
| Subj.   | DF          | T1                       | T2          | T3                      | T4                                     |
| S2  | Fore-ground | -                        | A (d) 1/100 | -                       | V(a) 4/100                             |
|   | Back-ground | A (d) 2/67<br>U (d) 1/33 | A (d) 1/100 | A (d) 5/83<br>P(h) 1/17 | A (d) 1/50<br>U (j) 1/25<br>U (b) 1/25 |

Legend: Subj. = subject  
 DF = discourse function  
 T1, 2, etc. = the first, the second, etc. elicitation sessions  
 - = no non-target verb forms occurred  
 A (d) = violation of number concord, third person singular + base verb form  
 U (d) = unmarking after auxiliaries, was (not) + base  
 P (h) = past irregular verb form after auxiliaries and infinitive marker "to", have + irregular verb in past tense  
 V (a) = verb in -ing form after auxiliaries and infinitive marker "to", "to" + verb-ing  
 U (j) = unmarking after auxiliaries, had (not) + base verb form  
 U (b) = unmarking after auxiliaries, is + base verb form

The Table shows that more sub-types of non-target verb forms tended to occur in background sentences than in foreground sentences. This was reflected in two aspects. First, of the 158 cases in which non-target verb forms occurred in both foreground and background sentences, about 70% (110) had more sub-types occurring in background sentences than in foreground sentences. About 10% (16) had more sub-types occurring in foreground sentences than in background sentences, and about 20% (32) had an equal number of sub-types occurring in both foreground and background sentences. Second, in those elicitation sessions when both foreground and background information were expressed, if no non-target verb form occurred when expressing a certain type of information, that type of information would mostly be foreground information. Of the 58 cases in which no non-target verb form occurred in a certain type of sentence when both foreground and background information were all expressed, 86% (50) belonged in the case in which no non-target verb form occurred in foreground sentences when both foreground and

background information were all expressed. The remaining 14% (8) belonged in the case in which no non-target verb form occurred in background sentences when both foreground and background information were expressed.

*Occurrence of new non-target verb forms* Table 27 displays the following information about each subject's use of new non-target verb forms in their oral production: (i) the elicitation session at which the subject first used non-target verb form(s), (ii) the elicitation sessions at which the subject used new non-target verb forms, and (iii) the elicitation session at which the subject used the last new non-target verb form(s) he/she used during the 14 elicitation sessions.

| <p style="text-align: center;"><i>Table 27</i></p> <p style="text-align: center;"><i>A Summary of Occurrence of New Non-Target Verb Forms in the Oral Production</i></p> |       |                               |       |
|--|-------|-------------------------------|-------|
| Subject  | NT(F) | NT(R)                         | NT(L) |
| S1   | T3    | T4, 5, 6, 7, 8, 9, 11         | T14   |
| S2   | T1    | T3, 4, 5, 6, 8, 10, 11, 13    | T14   |
| S3   | T2    | T4, 5, 6, 7, 8, 11, 12        | T13   |
| S4   | T1    | T2, 4, 5, 6, 7, 8, 9, 10, 11  | T13   |
| S5   | T1    | T2, 7, 8, 9, 12               | T14   |
| S6   | T1    | T4, 5, 6, 7, 8, 11            | T12   |
| S7   | T2    | T7, 9, 10, 11, 12             | T13   |
| S8   | T1    | T2, 4, 5, 7, 9                | T13   |
| S9   | T3    | T4, 5, 6, 7, 9, 12, 13        | T14   |
| S10  | T3    | T4, 6, 7, 9, 10, 11, 12       | T14   |
| S11  | T1    | T3, 4, 5, 6, 7, 8, 10         | T14   |
| S12  | T1    | T4, 5, 7, 8                   | T12   |
| S13  | T1    | T2, 3, 5, 7, 8, 9, 11, 12     | T14   |
| S14  | T1    | T2, 3, 7, 8, 9, 10, 13        | T14   |
| S15  | T1    | T3, 4, 5, 6, 7, 8, 9, 12, 13  | T14   |
| S16  | T1    | T2, 4, 5, 6, 8, 9, 10, 12     | T14   |
| S17  | T1    | T4, 6, 9, 11, 13              | T14   |
| S18  | T1    | T2, 3, 4, 6, 8, 9, 11, 12, 13 | T14   |
| S19  | T1    | T2, 3, 5, 6, 8, 10, 11, 12    | T14   |
| S20  | T1    | T3, 4, 6, 7, 8, 11, 12, 13    | T14   |

Legend: NT(F) = the elicitation session in which a subject first non-target verb form(s)  
 NT(R) = the elicitation sessions in which a subject used new non-target verb forms, except the last of the new verb forms  
 NT(L) = the elicitation session in which the subject used the last non-target verb form(s) he/she used during the 14 elicitation sessions

It was clear from Table 27 that the occurrence of non-target verb forms in the subjects' oral production took place gradually over time. Most subjects (75%) began

to use non-target verb forms right from the first elicitation session. For the majority of the subjects (90%), the use of new non-target verb forms, except the last one(s), continued throughout the three semesters of English learning at the University. The exceptions were S8 and S12, for whom this continued only during the second semester (i.e., between 5th and 9th elicitation sessions). All the subjects used their last non-target verb form(s) during the third semester (i.e., between 10th and 14th elicitation sessions). Seventy percent (14) of them used their last non-target verb form(s) in the last (14th) elicitation session.

*Use of irregular verbs in past tense after the infinitive marker "to", auxiliaries, modal verbs, and various inflectional forms of the link verb "to be"* This category of non-target verb forms was of special interest in this study because it appeared to indicate the subjects' growing awareness of the past time reference in the oral narratives as they had more experiences in speaking. Such a judgment was based on the following two facts. First, the subjects were not exposed to such a usage during the classroom English learning, nor did they adopt such a usage during the classroom practice. Therefore, the use of this non-target verb form could not have been the result of the influence from the English learning in the classroom. Rather, it must have resulted from the subjects' efforts to convey the meaning of past time. Second, 95% (19) of the subjects did not use this non-target verb form right from the first elicitation session, and 80% (16) used irregular verbs in past tense after more and more auxiliaries, modal verbs and inflectional forms of the link verb "to be". The increase over time in the number of this use also indicated the subjects' growing awareness of the past time reference in their oral narratives.

The forms of irregular verbs in past tense might also have contributed to the subjects' use of this non-target verb form. Since the inflectional forms of the irregular verbs are totally different from their roots in form and pronunciation, they might have been treated as independent lexical items and used as such subconsciously.

**Summary of types of verb form used in foreground and background sentences** The discourse functions of "foreground" and "background" exerted a degree of selective impact on the subjects' use of target verb forms to express foreground and background information. Irregular past form, base form and regular past form were consistently used by all subjects to express foreground information, while irregular past form, base form, and various inflectional forms of link verb "to be" in both simple present tense and simple past tense were consistently used by all subjects to express background information. All the subjects used more types of target verb form to express background information than foreground information, both synchronically and diachronically. Those target verb forms that were not consistently used occurred gradually over time.

The discourse functions of "foreground" and "background" also appeared to have selective impact on the occurrence of non-target verb forms, as was reflected in the tendency of more sub-types of non-target verb form to occur in the background sentences than in the foreground sentences. In addition, the absence of non-target verb forms, when it did happen, also tended to occur in foreground sentences. The occurrence of new non-target verb forms continued throughout the three semesters for the majority of the subjects. In other words, the subjects tended to use more and more sub-types of non-target verb forms over time. All subjects also exhibited a growing awareness of past time reference in their oral narratives by using irregular verb forms in past tense after more and more auxiliaries, modal verbs and inflectional forms of the link verb "to be".

*ii) Linguistic and non-linguistic means of referring to the notion of time*

Since the subjects were required to talk about the events that had happened, naturally, the time reference in their oral narratives was generally to the past. Therefore, the ways, both linguistic and non-linguistic, in which the subjects referred to past time were the focus of investigation. Using verbs in perfect aspect or past tense to refer to past time was the linguistic means of referring to past time. The ways in which the subjects organised orders of events in their narratives were the non-linguistic means of referring to past time.

Linguistic means of referring to past time Two notions of past time were indicated in the subjects' oral narratives. One was the notion of past time, and the other was the relationship between two points of time in the past, i.e., the concepts of "past in the past" and "future in the past".

**Past time marking in oral narratives** Two aspects of past time marking in the subjects' oral narratives were investigated. One was the proportion of the reference to past time to the reference to non-past time. In this study, the term "non-past time" was used to mean present time, future time and the notion of being atemporal. The other aspect was the proportion of the reference to past time to the actual marking of verbs to indicate past time.

Table 28 presents the distribution of the percentages of reference to past time and to non-past time in relation to the percentages of their actual marking in both foreground and background sentences at every elicitation session. Due to the bulky size, the Table is displayed in Appendix 29. The part of the Table illustrated on p.170 shows the past time reference and past time marking made by S2 in the first four elicitation sessions.

| Excerpt from Table 28 (S2)   |             |    |     |    |     |    |     |     |     |    |
|--|-------------|----|-----|----|-----|----|-----|-----|-----|----|
| Percentage of Past and Non-Past Time Reference in Relation to That of Actual Time Marking in Expression of Foreground and Background Information |             |    |     |    |     |    |     |     |     |    |
| Subj.  | DF          | TR | T1  |    | T2  |    | T3  |     | T4  |    |
|  |             |    | SM  | VM | SM  | VM | SM  | VM  | SM  | VM |
| S2   | Fore-ground | PS | 100 | 75 | 100 | 62 | 100 | 100 | 100 | 40 |
|  |             | NP |     | 25 |     | 38 |     |     |     | 60 |
|  | Back-ground | PS | 71  | 53 | 67  | 31 | 46  | 9   | 71  | 41 |
|  |             | NS | 29  | 47 | 33  | 69 | 54  | 91  | 29  | 59 |

Legend: Subj. = subject  
 DF = discourse function  
 TR = time reference  
 T1, 2, etc. = the first, second, etc. elicitation sessions  
 PS = past time reference  
 NP = non-past time reference  
 SM = semantic meaning of time reference  
 VM = actual past tense marking

Table 28 shows that when expressing foreground information, the subjects in most cases referred to only to the past time. Given the fact that the subjects were required to talk about something that had happened, it is natural that the past time had to be referred to if the story line was to be pushed forward. However, 25% (five) of the subjects at one elicitation session referred to non-past time when expressing foreground information. Those who did so at two sessions also accounted for 25% of the subjects. Five percent (one) did so at three sessions, and 5% (one) did so at five sessions. A closer examination of these instances showed that the concepts expressed by non-past time verbs in foreground sentences invariably referred to actions happening at the time of speaking, or the state of affairs that were atemporal. The following are some examples.

(16). "I told him that *I study at Fujian Teachers University*" (produced by S20 at the 7th elicitation session) (S20 was still a university student at the time of speaking)

(17). "...somebody is move her case, *which is place on my case, no...euh...my case is on his case*" (produced by S19 at the 6th elicitation session) (Each student had a fixed place to put his/her own belongings, and so at the time of speaking, S19's case was still on "somebody's" case)

(18). "When we got off, I see *the island is very small*" (produced by S17 at the 14th elicitation session) (The size of the island remained the same at the time of speaking)

(19). "When we arrive there I found *it's a very common mountain...*" (produced by S14 at the 12th elicitation session) (The mountain was still the same at the time of speaking)

(20). "*Since the way from our school is not very smoothly and there are many slope and corners, so we take the microphone to warn the passenger to pay attention to the danger ...*" (produced by S11 at the 7th elicitation session) (The situation of the road was still the same at the time of speaking).

Another characteristic of the relationship between reference to past time and past tense marking was that the percentage of actual past tense marking was always lower than that of reference to past time. In other words, the semantic meaning of referring to the past time was always under-represented in the surface realisation of past time. However, 50% (10) of the subjects at one or two sessions over-realised the semantic meaning of referring to past time. These exceptions all took place in background sentences except one subject at one session, at which reference to past time was over-represented in foreground sentences.

No subject showed improvement over time in the accuracy of past tense marking. For example, S1 was one hundred percent accurate in past time marking when expressing background information at the 2nd elicitation session (i.e., reference to past time accounted for 71.4% of total reference to both past and non-past time, and the actual past time marking also accounted for the same percent of total tense marking, both past and non-past). But in the 14th elicitation session, the accuracy rate dropped to about 24.4% (i.e., reference to past time accounted for 87.5% of total reference to both past and non-past time, but the actual past time marking accounted for only 21.4% of total tense marking, both past and non-past). Another feature of the accuracy in past tense marking was that whenever one hundred percent accuracy did occur, it was mostly in foreground sentences. Of 30 cases in which one hundred percent accuracy in past tense marking was achieved, only about 7% (two) happened in background sentences.

**Marking of "past in the past" and "future in the past"** The subjects' ability to indicate the semantic meaning of "past in the past" and "future in the past" was investigated by first identifying the instances in the narratives where the ideas of "past in the past" and "future in the past" were expressed and then examining how the contrasts in time were marked by linguistic means. The results showed that the most frequently used linguistic device to express the meaning of "past in the past" was perfect aspect, both present and past, of verbs. The following are some examples.

(21). "...last week, we went to Putian, we *had prepared* it carefully, and we all think we could have a good time..." (produced by S7 at the 6th elicitation session).

(22). "...I felt I would be alone, so I *had borrowed* five novels" (produced by S9 at the 11th elicitation session).

(23). "...one summer day, ...my companions ask me to go swimming...I *had never learn* swimming..." (produced by S14 at the 2nd elicitation session).

(24). "...I'll never forget the first time when I went skating, I *have never skated* before..." (produced by S17 at the 5th elicitation session).

(25). "Yesterday evening, there was a English party, I attend and sang a song, ... although *we had got well-prepared* for it, but all of us was very nervous." (produced by S19 at the 8th elicitation session. )

The meaning of "the future in the past" was invariably expressed by the subjects using "would+base form" or "will+base form". Following are some examples.

(26). "...he claim that he *will give* some medicine to anyone..." (produced by S2 at the 8th elicitation session).

(27). "...he told us that those who went home without asking for leave *will be* punish" (produced by S6 at the 11th elicitation session).

(28). "...I /we/ ashamed, so I phoned to my classmate and said I *would not go out* for picnic with them..." (produced by S13 at the 5th elicitation session).

(29). "...the next day, on my way home, I am sure I *would be* scolded" (produced by S17 at the 5th elicitation session).

(30). "...we all suppose what he *will do* to our English spoken." (produced by S20 at the 6th elicitation session).

It was obvious from these examples that the subjects relied on two cues when indicating the concepts of "past in the past" and "future in the past". The first was the specific time mentioned in the context, as can be seen from Examples 21, 23, 24, 25 and 29. The second was the context of the narratives, in which an action happening in the past has first been indicated, as can be seen from Examples 22, 26, 27, 28 and 30. The above examples also showed that the linguistic means used to indicate the two concepts were not always correct according to Standard English. "Have+ verb form" and "will + verb form" were also used, suggesting that although the subjects had the knowledge of marking the two concepts, they were still not able to produce correct forms orally.

The subjects varied in indicating their abilities to mark the semantic meaning of "past in the past" and "future in the past". Table 29 summarises the subjects' varying abilities by presenting following information: (i) the first elicitation session at which each subject used linguistic means to express the semantic meaning of "past in the past" and "future in the past", and (ii) the total number of elicitation sessions at which each subject used linguistic means to express the concepts of "past in the past" and "future in the past".



| <p style="text-align: center;"><i>Table 29</i></p> <p style="text-align: center;"><i>Subjects' Varying Abilities to Use Linguistic Means to Express the Concepts of "Past in the Past" and "Future in the Past"</i></p> |        |        |
|---|--------|--------|
| Subject   | TC (F) | TC (T) |
| S1  | T1     | 8      |
| S2  | T1     | 10     |
| S3  | T2     | 9      |
| S4  | T2     | 11     |
| S5  | T1     | 8      |
| S6  | T2     | 6      |
| S7  | T2     | 11     |
| S8  | T1     | 6      |
| S9  | T1     | 9      |
| S10   | T1     | 5      |
| S11   | T3     | 11     |
| S12   | T7     | 6      |
| S13   | T5     | 4      |
| S14   | T1     | 14     |
| S15   | T1     | 10     |
| S16   | T2     | 8      |
| S17   | T2     | 14     |
| S18   | T2     | 10     |
| S19   | T5     | 8      |
| S20   | T3     | 10     |

Legend: TC(F) = the first elicitation session at which each subject used linguistic means to express the semantic meaning of "past in the past" and "future in the past", and  
 TC(T) = the total number of elicitation sessions at which each subject used linguistic means to express the concepts of "past in the past" and "future in the past".  
 T1, 2, 3, ... 7 = the 1st, 2nd, 3rd, ... 7th elicitation sessions

The Table showed that 40% (8) of the subjects indicated their ability to mark the two concepts orally in the first elicitation session. Forty-five percent (9) indicated such an ability at the elicitation sessions belonging in the first semester (i.e., between the 2nd and the 4th elicitation sessions). Ten percent (2) did so at the 5th elicitation session, and only 5% (1) indicated such an ability at the 7th elicitation session. These findings showed that the majority of the subjects were able to mark the two concepts orally prior to English learning at the University, and in the first semester of English learning at the University.

No regularity can be found in terms of the total number of elicitation sessions at which the subjects marked the two concepts. For example, S13 marked the two

concepts in four elicitation sessions, but S14 and S17 did so in all 14 elicitation sessions. Thus, it appeared that the marking of the two concepts depended on the content of the narratives.

Non-linguistic means of expressing past time The subjects' ability of expressing past time in their oral narratives was also shown in the way they organised the order of events in the narratives. The organisation of the order of events was investigated by the analysis of the story lines of each subject's narratives at each elicitation session. The results of the analysis showed that all the subjects tended to follow a chronological order when organising the order of events. However, some time during the data collection period, the majority of them broke the chronological order of the events when orally presenting narratives. Following is an example (by S20 at the 11th elicitation session), which illustrates how a chronological order of events was broken. The numbers 1, 2, etc. indicate the chronological order of the event, and the letters A, B, etc. indicate the sentences that elaborate, explain, or comment on the events. The elements of oral performance such as hesitation, repetition, self-correction, and communication strategy were omitted.

#### *Background Information*

#### *Foreground Information*

- |   |   |
|---|---|
| <p>1. <i>set the scene:</i><br/>Several weeks ago, because her boy friend went out for business, so she live in apartment alone</p>                       | <p>2. so she ask me to make a companion with her, and I answered (agreed)</p>                           |
|   | <p>3. then I share two nights with her</p>  |
|   | <p>11. on the third day, when I got her before I put my bag down, she house, complain to me at once</p> |
| <p>4. <i>set the scene (narrative within narrative)</i><br/>because that day is Monday, and they needn't to come have lesson,</p>                         |   |
|   | <p>5. when he got up and want to cook breakfast</p>   |
| <p>A. because I suppose his electric board is out of order and leak some electricity and he took the ladle and the water flow electricity in his body</p> | <p>6. then he plug into /auset/</p>   |

- |  |  |
|--|--|
|  | 7. so at once the electricity flowed her body and her whole body became very thick                                     |
| B. it's fortunately he wear slippers at that time,   | 8. so that after ten minutes the strong electric flow beat me ( <i>sic.</i> ) strongly and made she fell on the ground |
|  | 9. then, I think, the electric flow from the ground, so she had no matter.   |
| C. she told me because that morning she had been in the room alone and there /wil/ no others together with her, he felt very <i>Wei Qu</i> (a Chinese word meaning a feeling of being wronged) |  |
|  | 10. and then she went her bedroom and lie on his bed and burst a lot of cry  |
| D. he told me at that time she very miss her friend.   | 12. then I suggest him and ask her not did cook in the house alone and she can eat dinner with me at school            |
|  | 13. and she answered (agreed)  |
| E. I think it's really dangerous.  |  |

The events described in this example followed the chronological order at the beginning of the narrative (as indicated by 1 to 3). Then the subject broke order of the events (as indicated by 11) to narrate another event which took place earlier than the actions described in 11 (as indicated by 4 to 10, together with elaboration, explanation, and comments indicated by A to D). After this the subject continued the events broken at 11 (as indicated by 12 and 13), finishing the story by a comment (as indicated by E).

The subjects varied in showing the organisation of events that did not follow a chronological order when orally presenting their narratives. Table 30 presents the following information about the subjects' organisation of events that did not follow a chronological order:

- the first elicitation session at which each subject did not follow a chronological order when narrating the events, and
- the total number of elicitation sessions at which each subject did not follow a chronological order when narrating the events.

| <p style="text-align: center;"><i>Table 30</i></p> <p style="text-align: center;"><i>Subjects' Varying Organisation of Narrative Events That Did Not Follow a Chronological Order</i></p> |        |        |
|---|--------|--------|
| Subject   | OE (F) | OE (T) |
| S1  | T7     | 2      |
| S2  | T7     | 2      |
| S3  | T6     | 3      |
| S4  | T7     | 2      |
| S5  | T7     | 2      |
| S6  | T9     | 2      |
| S7  | T7     | 2      |
| S8  | T13    | 2      |
| S9  | T5     | 2      |
| S10   | T14    | 1      |
| S11   | T1     | 4      |
| S12   | 0      | 0      |
| S13   | T13    | 2      |
| S14   | T13    | 1      |
| S15   | T4     | 2      |
| S16   | T12    | 1      |
| S17   | T2     | 3      |
| S18   | T13    | 1      |
| S19   | T6     | 3      |
| S20   | T11    | 1      |

Legends: OE(F) = the first elicitation session at which each subject did not follow the chronological order in organising the order of events  
 OE(T) = the total number of elicitation sessions at which each subject did not follow the chronological order when narrating the events  
 T1, 2, 4, ...13 = the 1st, 2nd, 4th, ... 13th elicitation sessions

The results indicated that the majority of the subjects (80%) began to show the ability to break the chronological order during the second and the third semesters (i.e., between 5th and 14th elicitation sessions). Those who broke chronological order in the first semester (i.e., between 2nd and 4th elicitation sessions) and prior to English learning at the University (i.e., the first elicitation session) were in the minority (15%). One subject (S12) never broke a chronological order when presenting oral narratives.

Of the 19 subjects who broke the chronological order when presenting oral narratives, about 79% did so only once or twice during the 14 elicitation sessions. The remainder did so three or four times in the same period.

Thus, compared to their ability to express the notions of "past in the past" and "future in the past", the subjects were generally late in showing their ability to break the chronological order of their oral narratives. In addition, they generally seldom used this method in their oral narration (mainly once or twice).

Summary of linguistic and non-linguistic means of referring to past time The linguistic means which the subjects used to refer to past time in their oral narrative

was marking the main verbs of sentences. The non-linguistic means used was to break the chronological order of the events described in the narratives.

The discourse functions of "foreground" and "background" had some selective impact on the subjects' reference to, and expression of past time. This was reflected in three respects. First, since "foreground" sentences pushed a story line forward, the time reference was generally to the past. Non-past time was referred to only when information supplementary to the "foreground" information was also expressed in the same complex sentence. Second, the simpler time reference in "foreground" sentences appeared to have made verb marking easier for the subjects, as can be seen from the 100% accuracy of verb marking that occurred only when the subjects were expressing "foreground" information. Third, the time reference was more complex in "background" information, and this appeared to have caused difficulty for the subjects to mark verbs accurately. Thus, over-marking of verbs most often occurred when the subjects were expressing "background" information, though generally the past time was under-represented.

Most subjects had grasped the linguistic means to express the concepts of "past in the past" and "future in the past" in English prior to English learning at the University or during the first semester of English learning at the University. The subjects appeared to rely on the contexts to mark the two concepts.

Most subjects showed the ability to break the chronological order of the events described in the oral narrative during the second and the third semesters. However, it appeared that they more often preferred to follow the principle of "first happened, first mentioned" in narrating. This was reflected in the small number of times when the chronological order was broken.

### *iii) Production strategies subjects adopted to solve problems emerging from oral production*

The production strategies adopted were divided into two general categories: those which aimed at enhancing the semantic and linguistic accuracy (or self-correction), and those which aimed at getting the meaning across, i.e., communication strategies.

**Self-correction during the oral production** Seven categories of linguistic feature were self-corrected during the 14 elicitation sessions. They were: syntactic structure, lexical item, tense, pronoun, number agreement, article, and pronunciation. Following are 8 examples illustrating each of the seven categories of self-correction (2 examples for self-correction of number agreement).

(31). "On our way to the bank, *we share the*, ... *since we share* the same boat, we sing a famous song" (self-correction of syntactic structure, produced by S17 at the 14th elicitation session).

(32). "The time come when we should stand on the *start point*, *starting point*" (self-correction of lexical item, produced by S8 at the 9th elicitation session).

(33). "A volleyball competition *is held*, *was held* in the class of Grade One" (self-correction of tense, produced by S10 at the 9th elicitation session).

(34). "I don't think it was too much interesting, because from the *face*, from the *faces* of whom had come back from the department, I know that" (self-correction of determiner-noun number, produced by S1 at the 8th elicitation session).

(35). "... but two of men *was*, euh, *were* unfriendly" (self-correction of subject-verb number, produced by S4 at the 12th elicitation session).

(36). "They think ... the result of *the* asking em, *asking* for God, ... are very similar with the facts" (self-correction of article, produced by S13 at the 12th elicitation session).

(37). "... so */mal/*, */mai/* (my) friend brought a lot of tableware to dining-room" (self-correction of pronunciation, produced by S2 at the 14th elicitation session).

*Impact of discourse functions on the subjects' use of self-correction* Table 31 presents occurrences of self-correction for each subject in each of the 14 elicitation sessions. The self-corrections were divided according to whether they were made when the subjects were expressing foreground information or background information. Due to its bulky size, the Table is shown in Appendix 30. The excerpt displayed below shows the self-correction made by S2 in the first four elicitation sessions.

| Excerpt from Table 31 (S2)  |             |                             |                             |          |   |
|---|-------------|-----------------------------|-----------------------------|----------|---|
| Self-Correction Made by Subjects When Producing Narratives Orally, Divided According to Foreground and Background Information |             |                             |                             |          |   |
| Subj.   | DF          | T1                          | T2                          | T3       | T4  |
| S2  | Fore-ground | L 1/100                     | L 1/100                     | SC 1/100 | L 4/100                                     |
|   | Back-ground | L 3/60<br>SC 1/20<br>T 1/20 | L 3/43<br>T 3/43<br>SC 1/14 | SC 1/100 | L 3/50<br>SC 1/16.6<br>T 1/16.6<br>S 1/16.6 |

Legend: Subj. = subject  
 DF = discourse function  
 T1, 2, etc. = the first, the second, etc. elicitation sessions  
 L = self-correction of lexical item  
 SC = self-correction of syntactic structure  
 T = self-correction of tense  
 S = self-correction of pronunciation

The results showed two general tendencies in the occurrence of self-correction when the discourse functions of "foreground" and "background" were separated. First, at most elicitation sessions, more categories of linguistic features were self-corrected when background information was expressed than when foreground information was expressed. Second, at most elicitation sessions, a larger number of

self-corrections were made when background information was expressed than when foreground information was expressed. The total number of elicitation sessions at which the subjects concerned did not follow either of the above two trends was 34. This was 7.5% of the 452 samples which contained both foreground and background information.

*Regularity in the adoption of self-correction* Table 32 displays six aspects of each subject's adoption of self-correction during the oral production.

| <p style="text-align: center;"><i>Table 32</i></p> <p style="text-align: center;"><i>Six Aspects of Subjects' Adoption of Self-correction Strategy</i></p> |                |              |           |    |         |             |
|--|----------------|--------------|-----------|----|---------|-------------|
| Subj.  | SC (F)         | SC (N)       | SC (L)    | ST | SC (LN) | SC (HN)     |
| S1   | 1 (SC)         | T 2, 3, 4, 8 | T10 (P)   | 7  | T1 (1)* | T14 (20)    |
| S2   | 3 (L, T, SC)   | T4, 7, 9     | T10 (N)   | 7  | T3 (2)  | T11 (31)    |
| S3   | 3 (L, P, SC)   | T 2, 5, 6    | T7 (P)    | 7  | T3 (7)  | T8 (30)     |
| S4   | 0              | T2, 4, 5     | T8 (A)    | 7  | T1 (10) | T9 (31)     |
| S5   | 0              | T2           | T3(A,P,S) | 7  | T9 (2)  | T13 (18)    |
| S6   | 1 (SC)         | T2, 4, 5, 6  | T7 (A)    | 7  | T1 (2)  | T7 (23)     |
| S7   | 4 (L,T,P,SC)   | T3, 7        | T10 (S)   | 7  | T4 (7)  | T8 (34)     |
| S8   | 0              | T2, 5        | T8 (S)    | 7  | T3 (5)  | T14 (50)    |
| S9   | 2 (L, SC)      | T3, 4, 5     | T6 (A)    | 7  | T1 (5)  | T14 (55)    |
| S10  | 2 (S, SC)      | T3           | T4 (P)    | 6  | T1 (2)  | T6 (25)     |
| S11  | 2 (L,SC)       | T3, 4, 5     | T6 (N)    | 7  | T1 (14) | T6 (74)     |
| S12  | 3 (L, P, SC)   | T3           | T5 (A)    | 7  | T1 (3)  | T5 (21)     |
| S13  | 0              | T2, 3, 5     | T7 (S)    | 7  | T1 (10) | T14 (45)    |
| S14  | 5 (L,P,T,S,SC) | T2           | T12 (A)   | 7  | T1 (15) | T13 (43)    |
| S15  | 3 (L,T, SC)    | T4, 6        | T8 (A, N) | 7  | T1 (6)  | T12 (44)    |
| S16  | 4 (L,T,P,SC)   | T2, 3        | T6 (A)    | 7  | T1 (8)  | T12 (68)    |
| S17  | 2 (L, SC)      | T2, 3, 6     | T7 (A)    | 7  | T1 (8)  | T14 (42)    |
| S18  | 2 (L, P)       | T2, 3        | T7 (A, S) | 7  | T1 (3)  | T14 (30)    |
| S19  | 5(L,T,A,N,SC)  | T2           | T3 (S)    | 7  | T1 (7)  | T6, 7 (50)  |
| S20  | 2 (L, SC)      | T2, 3, 4     | T9 (A)    | 7  | T2 (2)  | T7, 10 (34) |

- Legend: Subj. = subject
- SC(F) = the number of categories of linguistic features the subject self-corrected at the first elicitation session,
- SC(N) = the elicitation session(s) at which new categories of linguistic feature, except the last one(s), were self-corrected,
- SC(L) = the elicitation session at which the last category(s) of linguistic feature the subject self-corrected during the investigation period,
- ST = the total number of categories of linguistic feature the subject self-corrected over the investigation period,
- SC(LN) = the elicitation session at which the lowest number of instances of self-corrections was made, and
- SC(HN) = the elicitation session at which the highest number of instances of self-corrections was made.
- T1 T2, etc. = the first, second, etc. elicitation sessions
- SC, L, T, P, S, A, N = self-correction of syntactic structure (SC), lexical item (L), tense (T), pronoun (P), pronunciation (S), article (A), and number agreement (N)
- (1)\* = number of instances of self-correction made.

These six aspects were: (i) the number of categories of linguistic features the subject self-corrected at the first elicitation session (SC (F)), (ii) the elicitation session(s) at which new categories of linguistic feature, except the last one(s), were self-corrected (SC (N)), (iii) the elicitation session at which the last category(s) of linguistic feature the subject self-corrected during the investigation period (SC (L)), (iv) the total number of categories of linguistic feature the subject self-corrected over the investigation period (ST), (v) the elicitation session at which the lowest number of instances of self-corrections was made (SC (LN)), and (vi) the elicitation session at which the highest number of instances of self-corrections was made (SC (HN)).

The Table may give the impression that the subjects differed greatly in terms of all six aspects of self-correction, but a closer examination reveals a certain degree of regularity in all six aspects of self-correction.

*SC (F)* The number of the categories of linguistic features self-corrected at the first elicitation session was between 0 to 5. Ten subjects self-corrected two or three categories of linguistic features. The subjects who self-corrected one, four, and five category(s) of linguistic features were all two in number, and those who self-corrected none was 4. Regarding the specific categories of linguistic features self-corrected at the first elicitation session, lexical item and syntactic structure were the most frequently self-corrected linguistic features, followed by tense and pronoun. Articles, number agreement and pronunciation were the least self-corrected linguistic features. Only S14 self-corrected the pronunciation and S19 self-corrected the articles and number agreement at the first elicitation session.

*SC (N)* The elicitation sessions at which new categories of linguistic features, except the last one(s), were self-corrected were between the second and the ninth sessions. However, the great majority of subjects (17, or 85%) self-corrected new categories of linguistic features between the second and the sixth sessions, which occurred in the first and the second semesters.

*SC (L)* Although the subjects self-corrected their last category(s) of linguistic feature(s) at vastly different elicitation sessions, a tendency could also be observed when these elicitation sessions were divided according to the three semesters in which they occurred. That is, most subjects (65%) self-corrected their last category(s) of linguistic feature during the second semester (i.e., between 5th and 9th elicitation sessions). Fifteen percent (3) of the subjects self-corrected their last category(s) during the first semester (i.e., between 2nd and 4th elicitation sessions), while 20% (4) during the third semester (i.e., between 10th and 14th elicitation sessions). Regarding the specific category(s) of linguistic feature(s) last self-corrected, they were all among article, pronunciation, pronoun and number agreement. In other words, lexical item, syntactic structure, and tense were never the categories that were last self-corrected.



**ST** Almost all the subjects self-corrected seven categories of linguistic feature over the investigation period. The only exception was S10, who never self-corrected the use of both definite and indefinite articles.

**SC (LN)** The elicitation session at which the subjects made the fewest instances of self-correction was mostly the first elicitation session, although there were some subjects who made the fewest instances of self-correction at the second elicitation session (S20), at the third elicitation session (S2, S3, S8) or at the ninth elicitation session (S5). The actual number of instances of self-correction made in such an elicitation session was general below 10, with two exceptions: S11, who made 14, and S14, who made 15.

**SC (HN)** The elicitation sessions at which the subjects made the most instances of self-correction were more diverse. In addition, no tendency could be detected even when the sessions were divided according to the semester in which they fell. However, when the elicitation sessions in which the subjects made the most instances of self-corrections were compared with those in which the subjects made the fewest instances of self-correction, a clear tendency was observed. That is, the subjects invariably made more instances of self-correction in the later elicitation sessions.

*Frequency with which each type of self-correction was made* The subjects' self-corrections were further analysed by calculating the number of times each type of self-correction was made, without considering the foreground/background distinction. The results indicated that the self-correction of lexical items was the most frequently made to enhance the accuracy of expression (436 occurrences), followed, in descending order, by the self-correction of syntactic structure (364), tense (317), pronoun (208), pronunciation (149), and number agreement (98). The self-correction of the articles, both definite and indefinite, was the least made of all (79).

**Summary of subjects' self-correction during oral production** Three characteristics were observed of the subjects' self-correction to enhance the semantic and linguistic accuracy during the oral production in the elicitation sessions.

(i) The discourse functions of "foreground" and "background" appeared to have some impact on the number of instances of self-correction which the subjects made during the oral production. This was reflected in the subjects' tendency to self-correct more often when expressing background information than when expressing foreground information.

(ii) The subjects indicated a growing awareness of their own oral production during the 14 elicitation sessions. This growing awareness of oral production was

reflected in two respects. First, all the subjects were able to self-correct more categories of linguistic feature over time. Second, all the subjects self-corrected more often over time.

(iii) Lexical items, syntactic structure and tense were the three types of linguistic features that were, as a group, self-corrected first. The group of linguistic features self-corrected last was article, pronunciation, pronoun and number agreement, not necessarily in that order.

(iv) Lexical items were the most frequently self-corrected linguistic feature, followed by syntactic structure, tense, pronoun, pronunciation, and number agreement. The articles, both definite and indefinite, were the least often self-corrected linguistic feature.

**Adoption of communication strategies during oral production** The communication strategies adopted by the subjects during oral production over the data collection period could further be classified into two general categories. The first was native language (NL) based strategies, which comprised code-switching (i.e., from English to Chinese), asking the Investigator to supply words or expressions, and clarifying in Chinese the previous English expression. The second was target language (TL) based strategies, which included coining new expressions and clarifying in English the previous English expression. The following are five examples, illustrating each of the five sub-types of communication strategy.

(38). S2, "At last I was /feit/... (not clear).in the end of the term's examination."

Investigator, "You mean, I, I, what?"

S2, "I was"

Investigator, "I was what?"

S2, "was /feisrum/"

Investigator, "/fei/, /fei/"

S2, "Shibai" (Chinese for "fail" or "failure") (S2 switched to Chinese, not being able to say "fail" in English. Produced in the first elicitation session).

(39). S9, "I wrote a letter to him about my, my, about my, Ku Nao Zhe Me Jiang?" (Chinese for "How to say worry (in English). S9 asked the Investigator to supply the word unknown to her. Produced in the 3rd elicitation session).

(40). S7, "I think sometimes we just did something on surface, Biaomien (Chinese for "superficially"), on surface" (S7 explained in Chinese what she meant by "on surface". Produced in the 6th elicitation session).

(41). S11, " ... from the things, I was almost alone, I was almost *colden my heart*" (S11 coined the expression "colden my heart", meaning that she was unenthusiastic and frustrated. Produced in the 3rd elicitation session).

(42). S5, " ... I say nothing, and, the next, the next day, that is, *the day before yesterday*, I find the fish was still there" (S5 explained in English the meaning of "the next day" in this context. Produced in the 14th elicitation session).

Table 33 displays each subject's adoption of the five sub-types of communication strategy in each of the 14 elicitation sessions. Due to its bulky size, the Table is shown in Appendix 31. Part of the Table is presented below, showing the communication strategies adopted by S2 in the first four elicitation sessions. The strategies were divided according to their occurrence when foreground information or background information was being expressed.

| Excerpt from Table 33 (S2)  |             |          |          |                    |                    |
|---|-------------|----------|----------|--------------------|--------------------|
| Communication Strategies Adopted by Subjects When Orally Producing Narratives, Divided According to Foreground and Background Information |             |          |          |                    |                    |
| Subj.   | DF          | T1       | T2       | T3                 | T4                 |
| S2  | Fore-ground | -        | -        | -                  | cf 1/100           |
|   | Back-ground | cf 1/100 | cs 1/100 | cs 1/50<br>aw 1/50 | aw 1/50<br>cf 1/50 |

Legend: Subj. = subject  
 DF = discourse function  
 T1, 2, etc. = the first, the second, etc. elicitation sessions  
 - = no communication strategy was adopted  
 cf = clarifying in Chinese the previous target expression  
 cs = code-switching  
 aw = asking the Investigator to supply the words or expressions unknown to the subjects

*Impact of the discourse functions on the adoption of communication strategies*  
 From Table 32, the following characteristics can be observed of the subjects' adoption of communication strategies when expressing foreground and background information in their oral narratives. First, the discourse functions of "foreground" and "background" did not seem to have a selective impact on the subjects in terms of the *type* of communication strategies, because all the five sub-types identified were adopted equally in both foreground and background sentences. Second, in situations where communication strategies were adopted in both foreground and background sentences, the subjects tended to adopt more strategies, both in type and in number, when expressing background information than when expressing foreground information. The exceptions accounted for only 19.5% of the 87 narratives in which communication strategies were adopted in both foreground and background sentences. Third, when no communication strategy was adopted, it was more likely to occur when foreground information was being expressed than when background

information was being expressed. This observation was further tested by calculating separately the percentage of elicitation sessions in which no communication strategy was adopted when foreground information was being expressed, and when background information was being expressed. The results for the analysis are presented in Table 34.

| <p><i>Table 34</i></p> <p><i>Percentages of Elicitation Sessions in Which No Communication Strategy Was Adopted to Express Foreground or Background Information</i></p> |            |            |
|---|------------|------------|
| Subject   | Foreground | Background |
| S1  | 50%        | 14%        |
| S2  | 64%        | 14%        |
| S3  | 64%        | 28.5%      |
| S4  | 64%        | 42.8%      |
| S5  | 58.3%      | 35.7%      |
| S6  | 63.6%      | 42.8%      |
| S7  | 85.7%      | 50%        |
| S8  | 83.3%      | 78.5%      |
| S9  | 33%        | 0%         |
| S10   | 100%       | 77%        |
| S11   | 27%        | 0%         |
| S12   | 100%       | 61.5%      |
| S13   | 60%        | 7%         |
| S14   | 45%        | 21%        |
| S15   | 38%        | 0%         |
| S16   | 36%        | 7%         |
| S17   | 21%        | 14%        |
| S18   | 62.5%      | 21%        |
| S19   | 44%        | 7%         |
| S20   | 66.6%      | 0%         |

Table 34 shows that for all the subjects, the percentage of elicitation sessions in which no communication strategy was adopted when foreground information was being expressed was larger than that of elicitation sessions in which no communication strategy was adopted when background information was being expressed. This suggests that the expression of background information posed more communication problems for the subjects.

*Regularity in the adoption of communication strategies* Table 35 displays the information about six aspects of each subjects' adoption of communication strategies.

| <p align="center"><b>Table 35</b></p> <p align="center"><b><i>Six Aspects of Subjects' Adoption of Communication Strategies in the 14 Elicitation Sessions</i></b></p> |          |           |              |    |                         |                 |
|--|----------|-----------|--------------|----|-------------------------|-----------------|
| Subj.  | CS (F)   | CS (N)    | CS (L)       | CT | CS (LN)                 | CS (HN)         |
| S1   | 0        | T2, 4, 10 | T11 (cf)     | 5  | T9, 12, 13, 14 (1)*     | T11 (10)*       |
| S2   | 1 (cf)   | T2, 3     | T8 (prh, cn) | 5  | T1, 2, 6, 9 (1)         | T8, 10 (4)      |
| S3   | 0        | T2, 4, 6  | T8 (aw)      | 4  | T5, 6 (1)               | T8 (14)         |
| S4   | 0        | T2, 3, 7  | T11 (cs)     | 4  | T2, 9 (1)               | T11, 12, 14 (3) |
| S5   | 1 (prh)  | T2, 5     | T12 (cn)     | 5  | T1, 2, 3, 6, 11, 12 (1) | T13 (5)         |
| S6   | 1 (aw)   | T7, 9     | T14 (cn)     | 5  | T1, 10, 12 (1)          | T7, 14 (6)      |
| S7   | 0        | T3, 4, 6  | T8 (aw, prh) | 5  | T3, 4, 7, 12 (1)        | T9 (3)          |
| S8   | 0        | T3,5,8,12 | T14 (cs)     | 5  | T1, 5, 12 (1)           | T8, 14 (3)      |
| S9   | 1 (cf)   | T3, 9     | T13 (cn)     | 5  | T1, 8 (1)               | T3 (7)          |
| S10  | 0        | T3        | T12 (cs,prh) | 3  | T3, 13 (1)              | T12 (3)         |
| S11  | 1 (cn)   | T3, 5     | T6 (aw)      | 5  | T1 (1)                  | T8 (10)         |
| S12  | 0        | T4, 5     | T12 (cs,prh) | 4  | T4, 7, 13 (1)           | T5, 12 (2)      |
| S13  | 0        | T4, 5     | T8 (cn)      | 5  | T4, 7, 8 (2)            | T14 (19)        |
| S14  | 0        | T2,4,6,7  | T9 (cf)      | 5  | T4, 5, 12 (2)           | T13 (9)         |
| S15  | 2(cs,aw) | T2        | T4 (prh)     | 5  | T5 (2)                  | T11 (12)        |
| S16  | 1 (cn)   | T2, 4, 5  | T14 (cf)     | 5  | T1, 3, 9 (1)            | T14 (9)         |
| S17  | 1 (aw)   | T2, 3, 4  | T6 (cf)      | 5  | T2, 8, 13 (1)           | T10 (7)         |
| S18  | 0        | T2, 4     | T6 (prh)     | 5  | T5, 6, 10, 12 (1)       | T14 (10)        |
| S19  | 0        | T2, 3     | T5 (prh)     | 5  | T8 (1)                  | T7 (27)         |
| S20  | 1 (cs)   | T2        | T7 (prh)     | 5  | T1, 8 (1)               | T11 (12)        |

- Legend: Subj. = subject
- CS(F) = the number of the type(s) of strategy adopted in the first elicitation session,
- CS(N) = the elicitation sessions at which new type(s) of strategy, except the last one(s), was/were first adopted,
- CS(L) = the elicitation session at which the last type(s) of strategy was/were adopted,
- CT = the total number of types of strategy adopted during the data collection period,
- CS(LN) = the elicitation session(s) at which the fewest instances of strategy adoption occurred during the data collection period, and
- CS(HN) = the elicitation session(s) at which the most instances of strategy adoption occurred during the data collection period.
- T1, T2 etc. = the first, second elicitation sessions
- cs, aw, cf, cn, prh = code-switching (cs), asking the Investigator to supply words and expressions (aw), clarifying in Chinese (cf), coining new words or expressions (cn), clarifying in English (prh).
- (1)\* (10)\* = the actual instance(s) of communication strategy adopted

These six aspects were: (i) the number of the type(s) of strategy adopted in the first elicitation session (CS (F)), (ii) the elicitation sessions at which new type(s) of strategy, except the last one(s), was/were first adopted (SC (N)), (iii) the elicitation session at which the last type(s) of strategy was/were adopted (CS (L)), (iv) the total number of types of strategy adopted during the data collection period (CT), (v) the elicitation session(s) at which the fewest instances of strategy adoption occurred during the data collection period (CS (LN)), and (vi) the elicitation session(s) at which the most instances of strategy adoption occurred during the data collection period (CS (HN)).

*CS(F)* Fifty-five percent (11) of the subjects did not adopt any communication strategy at the first elicitation session, 40% (8) adopted one type, and only 5% (1) adopted two types. Among those subjects who adopted communication strategy at the first elicitation session, six adopted NL-based strategies, and three adopted TL-based strategies. To get a more comprehensive view of what types of strategy the subjects adopted when they first learned to communicate orally in English, the first strategies adopted by the 11 subjects who did not use any strategy at the first elicitation session were also examined (See Table 33, Appendix 31), the results showed that five of them adopted NL-based strategies; three first adopted TL-based strategies; and another three first adopted both NL-based and TL-based strategies. Therefore, the way in which the subjects *first* adopted communicative strategies during the oral communication could be summarised as follows: 11 adopted NL-based strategies, six adopted TL-based strategies, and three adopted both NL-based and TL-based strategies.

*CS(N)* Except S12 and S13, those subjects who did not adopt any communication strategy in the first elicitation session all began the adoption in the second or the third elicitation session. Those who adopted communication strategy in the first elicitation session also began to adopt new sub-types of communication strategy in the second or the third elicitation sessions. S6, who did not begin until the 7th elicitation session, was the only exception. The subjects differed a lot in terms of the actual elicitation sessions at which new types of strategies were adopted. When these elicitation sessions were considered according to the semester in which they fell, however, it was found that 90% (18) of the subjects adopted new types of strategy during the second semester (i.e., between 5th and 9th elicitation sessions). S1 and S8 were the exceptions, whose period of adopting new strategies lasted until the third semester (i.e., between 10th and 14th elicitation sessions).

*CS(L)* The subjects also varied a lot in their adoption of the last sub-type(s) of communication strategy. However, when the sessions were divided according to the semester in which they fell, it was found that they fell either in the second or in the third semester. More specifically, 11 (or 55%) subjects adopted their last type(s)

of communication strategy during the second semester (i.e., between 5th and 9th elicitation sessions), and nine (or 45%) during the third semester (i.e., between 10th and 14th elicitation sessions). Regarding the specific type(s) of strategy, 40% (8) adopted NL-based strategies; 45% (9) adopted TL-based strategies; and 15% (3) adopted both NL-based and TL-based strategies.

When the last sub-type(s) of communication strategy were compared with the first sub-type(s), the following was found. Thirty percent (6) of the subjects followed the order of first adopting NL-based and then TL-based strategies; 20% (4) followed the order of first using TL-based and then NL-based strategies; for another 20% (4), the last sub-type of strategy they adopted was the same as the first sub-type. The remaining 30% (6) either first adopted both NL-based and TL-based strategies and then only NL-based strategy (S1) or only TL-based strategy (S13, S18), or first adopted only TL-based strategy (S7) or only NL-based (S10, S12) and then both NL-based and TL-based strategies.

*CT* Eighty percent (16) of the subjects adopted all five sub-types of communication strategy identified. The exceptions were: S3, S4 and S12 who adopted four types, and S10 who adopted only three. The sub-type which S3, S4 and S12 did not adopt was "clarifying in Chinese the previous English expression", and the sub-types not adopted by S10 were "clarifying in Chinese the previous English expression" and "coining new words and expressions".

*CS(LN)* The elicitation sessions in which the fewest instances of strategy adoption occurred were highly diverse. The subjects also differed in the particular sessions in which they adopted the fewest instances of strategies. The actual instance of strategy adopted in such sessions was usually one. Only 15% (3) of the subjects adopted two in such sessions.

*CS(HN)* The elicitation sessions at which the subjects adopted the most instances of communication strategies were also highly diverse. For example, S9 adopted the most instances of strategies in the third elicitation session, but S16 and S18 adopted the most instances of strategies in the fourteenth elicitation session. Similarly, the subjects differed in the particular sessions at which they adopted the most instances of strategies. The actual instances of strategies adopted at such sessions also varied. However, most often, the number was less than 10. Twenty-five percent (5) of the subjects adopted more than 10 instances.

Thus, the subjects differed greatly in terms of actual elicitation sessions in which (i) they adopted new sub-type(s) of communication strategies, (ii) they adopted the last sub-type(s) of communication strategies, (iii) the fewest instances of strategy adoption occurred, and (iv) the most instances of strategy adoption occurred. They also differed greatly in terms of the order in which NL-based and TL-based strategies were adopted. However, the subjects also exhibited two regularities in

adopting communication strategies. One was that the majority of them were able to adopt all 5 sub-types of communication strategy. The other was that all the subjects showed the ability to adopt new sub-types of communication strategy over time.

*Frequency with which each sub-type of communication strategy was adopted*  
Without taking into consideration the distinction between foreground and background information, and between the individual subjects, the number of times each sub-type of communication strategy was adopted by all the subjects during the 14 elicitation sessions was calculated. It was found that "code-switching" was adopted most frequently (303 times), followed by "coining words and expressions" (178 times), "asking the Investigator to supply the words and expressions" (162 times), and "clarifying in Chinese the previous English expression" (137 times). The strategy of "clarifying in English the previous English expression" was least often adopted (87 times). These findings suggest that although when possible the subjects tried to use their highly analysed knowledge of English grammar to solve communication problems by making up words and expressions which, though not being target, could make themselves understood, they preferred to use Chinese because the author is also a native speaker of Chinese. This also could explain the infrequent use of English by the subjects to clarify their meaning.

**Summary of subjects' adoption of communication strategies during oral production** The discourse functions of "foreground" and "background" appeared to have exerted some impact on the subjects' adoption of communication strategies during oral narrative presentation. This was reflected in two respects. First, the subjects tended to adopt communication strategies more often when expressing background information than when expressing foreground information. Second, when no communication strategies were adopted, it would happen more frequently when foreground information was being expressed than when background information was being expressed. However, the choice of particular sub-types of communication strategy was not affected by the expression of the discourse functions.

The subjects were highly varied in their adoption of first sub-type(s) and last sub-type(s) of communication strategies. As a result, no pattern could be found in the order in which they adopted NL-based and TL-based communication strategies. The subjects were also varied in the elicitation sessions in which they adopted the fewest and the most communication strategies. However, they all showed the ability to adopt more sub-types of communication strategy over time, and the majority of them were able to adopt all five sub-types of communication strategies identified.



The fact that the author is a native speaker of Chinese also appeared to affect the subjects' choice of communication strategy. This was so because code-switching was the most frequently adopted strategy. In other words, when there was a communication problem, the subjects would often turn to Chinese as the solution. The strategy of "coining new words and expressions" was also quite frequently adopted, indicating that when possible, the subjects tried to use their highly analysed knowledge of English grammar to solve communication problems.

### **8.3 Overall summary of the subjects' learning outcomes**

This chapter has presented the results for investigation into the subjects' learning outcomes, which consisted of their internal representations of the knowledge of English grammar, their oral English ability in terms of "function-form" relationships, and its development. These results have answered sub-questions 9 to 11, viz. What are the subjects' internal representations of knowledge of English grammar? What are the linguistic forms employed by the subjects during the investigation period to express the functions under examination? What are the production strategies which the subjects adopted during the investigation period?

The test of the subjects' ability to correct their own oral production indicated that the subjects possessed a highly analysed knowledge of English grammar. This was reflected in their ability to discriminate between correct and erroneous linguistic features in their oral production, to locate all five types of grammatical errors committed in their oral production, to provide target corrections for most instances of all five types of grammatical errors, and to state the target rules broken by all five types of grammatical errors. The subjects' performance on the test was also affected by factors such as limitation of attention, performance strategy, the nature of the grammatical errors, idiosyncratic understanding of the meaning of the erroneous linguistic features, and certain non-target knowledge of English grammar. But the influence of these factors was not significant, because it was clear from the subjects' performance that they had possessed the relevant knowledge of English grammar to perform all four tasks required in the test at the time of the testing session.

The subjects' oral English ability in terms of "function-form" relationships and its development were much more complicated than the subjects' indication of their internal representations of knowledge of English grammar. The discourse functions of "foreground" and "background" appeared to have a selective impact on the subjects' choice of syntactic structures, verb types and verb forms (both target and non-target) to express foreground and background information. However, the impact was not clear-cut, because sometimes the subjects might supplement foreground information with background information. This resulted in the use of those syntactic

structures, verb type and verb forms that were predominantly used in the expression of background information.

Not only did the discourse functions of "foreground" and "background" have some selective impact on the subjects' choice of linguistic forms, they also exerted some impact on the subjects' expression of case function, i.e., the notion of "temporality", and on the subjects' adoption of production strategies, viz. self-correction and communication strategies. Generally, the time reference in foreground sentences was to past time, and that in background sentences was to both past and non-past time. The occasional addition of background information to foreground information also resulted in some non-past time reference in foreground sentences. The past time was generally under-represented. Sometimes over-marking of verbs for past tense also occurred, but only in background sentences. The subjects generally adopted production strategies more often when expressing background information than when expressing foreground information.

All the subjects indicated the knowledge of marking past time, including "past in the past" and "future in the past", early in the investigation period, although the actual marking was far from accurate. Invariably, the subjects relied on the specific time reference and contexts of the narratives to indicate the concepts of "past in the past" and "future in the past".

The development of the subjects' oral English ability to express the functions under examination can be described both linguistically and non-linguistically. Different from the untutored learners of English, the subjects' linguistic development did not involve any structural movement in the syntactic structures they used, but the ability to use more and more types of syntactic structure and verb forms (both target and non-target) in their oral production. Non-linguistically, the development manifested itself in four respects. First, all the subjects showed the ability to break the chronological order of the events described in their oral narratives some time after English learning at the University. Second, the majority of the subjects indicated a growing awareness of the past time reference in their oral narratives by using irregular verbs in past tense after more and more auxiliaries and inflectional forms of the link verb "to be". Third, all the subjects showed the ability to self-correct more and more types of linguistic features during the oral production. These self-corrections helped to enhance the linguistic and conceptual accuracy of their oral production. Finally, all the subjects adopted more sub-types of communication strategies, showing their growing ability to cope with communication problems, though code-switching was the most preferred strategy.

## **Chapter 9 Interpretation of Results**

In Chapters 6, 7 and 8, the results for investigation into the subjects' learning contexts, individual characteristics, and learning outcomes have been presented. More particularly, the three chapters have presented and discussed to a certain extent the results for investigation into the subjects' English learning experiences in and out of the classroom, their attitudes, motivations and learning strategies in relation to English learning, their internal representations of their knowledge of the English language, and their oral English development in terms of "function-form" relationships. These results provided the bases on which the nine types of relationship between the four aspects of English learning (identified from a conceptual framework of English learning in a foreign language classroom, see 4.4, pp.62-66) could be explored. These relationships are as follows:

- (i) the relationships between the subjects' English learning experiences in the classroom and their attitudes in relation to both English learning and the classroom learning environment,
- (ii) the relationships between the subjects' attitude in relation to English learning and their motivations for learning English,
- (iii) the relationships between the subjects' attitude toward the classroom learning environment and their motivations for learning English,
- (iv) the relationships between the subjects' motivations for learning English and their participation in out-of-class contact with English,
- (v) the relationships between the subjects' surface, deep and achieving motives for learning English and surface, deep and achieving learning strategies adopted,
- (vi) the relationship between the subjects' learning strategies and the internal representations of their knowledge of the English language,
- (vii) the relationship between the subjects' oral practice in and out of classroom and the development of procedural knowledge,
- (viii) the relationship between the functions under examination (i.e., discourse functions of "foreground" and "background" and case function of "temporality") and the linguistic forms and strategies adopted by the subjects during oral production,
- (ix) the relationship between the subjects' oral learning outcomes and their subsequent oral English practice

This chapter will first interpret the results presented in the previous three chapters in terms of the nine types of relationships listed above. Then, a summary of the interpretation will be provided.

### **9.1 Interpretation of the results in terms of nine types of relationships**

- i) *Relationships between subjects' English learning experiences in the classroom and their attitudes in relation to both English learning and the classroom learning environment*

**Relationship between subjects' English learning experiences in the classroom and their attitude in relation to English learning** It has been shown in 7.1 (ii) and (iii) that the subjects' attitudes in relation to English-speaking people, their interest in learning English, and their overall attitudes in relation to English learning were positive prior to their English learning at the University, and during the three semesters of English learning at the University, this positive attitude toward English learning remained unchanged. These results suggest that the classroom English learning experiences did not change the subjects' positive attitude toward English learning. It appears that such a relationship can be explained by the subjects' possession of an intrinsic love of English, given that they applied to major in English on their own volition; the financial gains that subjects hoped to accrue from their knowledge of English; and the security of their future career at the end of University study.

**Relationship between subjects' English learning experiences in the classroom and attitude toward the classroom learning environment** As shown in 7.2 (ii) and (iii), the subjects generally held an overall negative attitude toward the learning environment in the second semester, but in the first and the third semesters, their attitude toward the learning environment was positive. The overall negative attitude in the second semester seemed to be linked with two variables. It was the semester in which the subjects indicated both the highest level of English class anxiety, and the most negative attitude toward the teaching methods adopted.

These results may be explained by the subjects' classroom learning experiences. In the first semester, the subjects evidently found that in many aspects, English classes at the University were totally different from those in the secondary school. This new experience might have resulted in a favourable attitude toward the learning environment, since the subjects thereby expected to learn more about English at the University. In the second semester, although the subjects were taught mainly by the same teachers (except in the English Reading course), using the same kinds of teaching methods, and similar kinds of exercises, most subjects felt that they did not get as much help from the teachers as they needed or had expected. Such a feeling may have been reflected in the high level of class anxiety and the negative attitude toward the teaching methods. In the third semester, all the teachers (except for the teacher of the Basic English course) were replaced. A new course, English Grammar,

was added to the program. The change of teachers was accompanied by some changes in teaching methods, especially in Oral English. More varieties of practice were also required, e.g., group discussion in the Oral English class, marking each other's exercises in the English Reading class, and dictation practice in the English Listening class. Changes in the learning environment conceivably boosted the subjects' overall attitudes toward the classroom learning environment.

The subjects' attitude toward course materials on the other hand was positive during all three semesters of English learning. This suggests that the subjects' learning experiences did not have a negative effect on their attitudes toward the course materials which had been adopted during the three semesters.

Considering together the relationships between the subjects' English learning experiences and their attitudes both in relation to English learning and toward the classroom learning environment, it is clear that the experiences of English learning affected the two types of attitude in totally different ways. For example, the subjects' attitude toward the classroom learning environment became negative in the second semester, yet in the same period, their attitude in relation to English learning remained positive. This suggests that the subjects' attitude in relation to English learning was unrelated to their attitude toward the classroom learning environment. In other words, a subject could be dissatisfied with the classroom learning environment, yet his/her interest in English remained.

*ii) Relationships between subjects' attitude in relation to English learning and their motivations for learning English*

Correlational analyses were applied to determine the relationship between the subjects' overall attitude in relation to English learning and each of five types of motivation for learning English, viz. integrative, instrumental, surface, deep, and achieving motives. The analyses were one-tailed. More specifically, it was assumed that the attitude in relation to English learning was positively associated with integrative (i.e., a wish to identify with native speakers of the target language), instrumental (i.e., a utilitarian purpose to benefit from the knowledge of the target language), deep (i.e., an intrinsic motive to know more about the subject matters taught) and achieving (i.e., a competitive motive to obtain highest possible grades in examinations) motives for learning English, but was negatively related to surface motive (i.e., an extrinsic motive to meet the requirements of courses).

Table 36 displays the results for analyses of the subjects' overall attitude in relation to English learning and their integrative and instrumental motivations at the four testing sessions, viz. one session prior to the subjects' English learning at the University, and three sessions following the subjects' English learning at the University.

| <i>Table 36</i>  |        |       |       |       |          |        |          |          |
|--|--------|-------|-------|-------|----------|--------|----------|----------|
| <i>Correlation Coefficients between Overall Attitude in Relation to English Learning<br/>and Integrative and Instrumental Motivations<br/>(Four Testing Sessions, 20 Subjects)</i> |        |       |       |       |          |        |          |          |
|  | TM(In) | TM(1) | TM(2) | TM(3) | INS(In)  | INS(1) | INS(2)   | INS(3)   |
| AEL(In)  | .40*   |       |       |       | .31 n.s. |        |          |          |
| AEL(1)   |        | .56** |       |       |          | .51*   |          |          |
| AEL(2)   |        |       | .59** |       |          |        | .27 n.s. |          |
| AEL(3)   |        |       |       | .44*  |          |        |          | .34 n.s. |

Legend: TM(In), TM(1), etc. = integrative motivation at pre-university English learning test, first post-university English learning test, etc.  
 INS (In), INS (1), etc. = instrumental motivation at pre-university English learning test, first post-university English learning test, etc.  
 AEL(In), AEL(1), etc. = overall attitude to English learning at pre-university English learning test, first post-university English learning test, etc.  
 n.s. = not significant  
 \* =  $p < .05$  (one-tailed) when  $df = 18$   
 \*\* =  $p < .01$  (one-tailed) when  $df = 18$

**Relationship between the attitude in relation to English learning and integrative motivation** Table 36 shows that these two variables were significantly associated in a consistent manner in the four testing sessions. These results suggest that the subjects with positive attitudes in relation to English learning also had a strong desire to identify with English-speaking people. This may have been why they applied to major in English at the University in the first place.

**Relationship between the attitude in relation to English learning and instrumental motivation** Only one significant correlation was found, i.e. .51 ( $p < .05$ , one-tailed,  $df = 18$ ) in the first testing session following the subjects' English learning at the University. Although no significant correlation was found in the remaining three testing sessions, there appeared to be a trend that the two variables were positively associated, as was indicated by correlation coefficients of .31, .27, and .34.

Table 37 presents the results for analyses of the subjects' overall attitude in relation to English learning and their surface, deep, and achieving motives at the three testing sessions during the three semesters.

Table 37

*Correlation Coefficients between Overall Attitude in Relation to English Learning and Three Types of Motives (Surface, Deep and Achieving) (Three Testing Sessions, 20 Subjects)*

|        | SM(1)     | DM(1) | AM(1)      | SM(2)     | DM(2)    | AM(2)      | SM(3)     | DM(3) | AM(3) |
|--------|-----------|-------|------------|-----------|----------|------------|-----------|-------|-------|
| AEL(1) | -.20 n.s. | .39*  | -.046 n.s. |           |          |            |           |       |       |
| AEL(2) |           |       |            | -.22 n.s. | .33 n.s. | -.022 n.s. |           |       |       |
| AEL(3) |           |       |            |           |          |            | -.25 n.s. | .58** | .58** |

Legend: SM(1), SM(2), SM(3) = surface motive at the first, second, and third tests  
 DM(1), DM(2), DM(3) = deep motive at the first, second, third tests  
 AM(1), AM(2), AM(3) = achieving motive at the first, second, third tests  
 AEL(1), AEL(2), AEL(3) = overall attitude towards English learning at the first, second, and third tests  
 n.s. = not significant  
 \* =  $p < .05$  (one-tailed) when  $df = 18$   
 \*\* =  $p < .01$  (one-tailed) when  $df = 18$

**Relationship between the attitude in relation to English learning and surface motive** No significant correlation was found between the attitude and surface motive. Although the consistent negative correlations indicate a trend that the subjects' overall attitude in relation to English learning might be negatively related to their surface motive, such a trend was not strong enough for one to be confident about such a relationship. Given that the subjects had a secured career once they were university students, they may have felt no motivation to simply satisfy course requirements (i.e., surface motive).

**Relationship between the attitude in relation to English learning and deep motive** In the first and the third testing sessions, the attitude was significantly positively related to deep motive (i.e., an intrinsic motive to find out more about the subject matter taught). Although this attitude was not statistically significantly related to deep motive ( $r^2 = .33$ ) at the second testing session, there appeared to be a trend that the attitude toward English learning was positively associated with deep motive. Moreover, the strong relationship at the third testing session needs further investigation, as it could indicate that the variables were related more strongly as the subjects approached the time for an overall proficiency assessment (Note: The third semester was the semester prior to an important national English proficiency examination. Those who could not pass the examination had to repeat the second year and this involved paying tuition fees as it would not be supported by the national system).

**Relationship between the attitude in relation to English learning and achieving motive** Only in the third testing session was this attitude significantly related to achieving motive (i.e., a competitive motive to obtain high grades in examinations). This could also be an indicator that as the subjects approached the time for an important assessment of their proficiency, the relationship between these

variables started to show. However, it could also represent a statistical artefact due to the number of coefficients calculated on the data. Further investigation would seem to be warranted as any variation in such a relationship would be valuable information for teachers.

**Summary** It appears that what made the subjects study English was primarily related to their intrinsic interest in English-speaking people and the English language. Utilitarian purpose seemed to be of secondary importance to them. The intrinsic interest in English-speaking people and the English language was reflected in (i) a consistent positive correlation of attitude in relation to English learning with integrative motivation for learning English, and (ii) a trend for a positive association between the attitude in relation to English learning and deep motive (i.e., a wish to find out more about the English language). The lack of simple utilitarian purposes for studying English was reflected in (i) a weak trend of negative association between the attitude in relation to English learning and surface motive (i.e., a wish merely to meet course requirements), (ii) a weak trend toward positive relationships of this attitude with instrumental motivation, and (iii) a lack of association between this attitude and achieving motivation, except when the final assessment was about to take place.

iii) *Relationships between subjects' attitude toward the classroom learning environment and their motivations for learning English*

The relationships between the subjects' overall attitude toward the classroom learning environment and each of the five types of motivation mentioned above were also assessed in the three testing sessions following the subjects' beginning English learning at the University, using correlational analyses. The analyses were two-tailed, because the direction of the relationships between these variables was not assumed. The results of analyses are presented in Tables 38 and 39.

| Table 38  |          |       |       |            |               |
|---|----------|-------|-------|------------|---------------|
| Correlation Coefficients between Overall Attitude toward the Classroom Learning Environment and Integrative and Instrumental Motivations<br>(Three Testing Sessions, 20 Subjects) |          |       |       |            |               |
|   | TM(1)    | TM(2) | TM(3) | INS(1)     | INS(2) INS(3) |
| ALE(1)  | .40 n.s. |       |       | .004 n.s.  |               |
| ALE(2)  | .11 n.s. |       |       | .008 n.s.  |               |
| ALE(3)  | .41 n.s. |       |       | -.014 n.s. |               |

Legend: TM(1), TM(2), etc. = integrative motivation at first, second, etc. post-university English learning test  
INS (1), INS (2), etc. = instrumental motivation at first, second, etc. post-university English learning test  
ALE(1), ALE(2), etc. = overall attitude toward the classroom learning environment at first, second, etc. post-university English learning test  
n.s. = not significant



| <p style="text-align: center;"><i>Table 39</i></p> <p style="text-align: center;"><i>Correlation Coefficients between Overall Attitude toward the Classroom Learning Environment and Three Types of Motives (Surface, Deep and Achieving)</i></p> <p style="text-align: center;"><i>(Three Testing Sessions, 20 Subjects)</i></p> |           |          |            |            |          |            |           |          |          |
|---|-----------|----------|------------|------------|----------|------------|-----------|----------|----------|
|   | SM(1)     | DM(1)    | AM(1)      | SM(2)      | DM(2)    | AM(2)      | SM(3)     | DM(3)    | AM(3)    |
| ALE(1)  | -.36 n.s. | .21 n.s. | -.096 n.s. |            |          |            |           |          |          |
| ALE(2)  |           |          |            | -.044 n.s. | .16 n.s. | -.027 n.s. |           |          |          |
| AEL(3)  |           |          |            |            |          |            | -.33 n.s. | .42 n.s. | .16 n.s. |

Legend: SM(1), SM(2), SM(3) = surface motive at the first, second, and third tests  
 DM(1), DM(2), DM(3) = deep motive at the first, second, third tests  
 AM(1), AM(2), AM(3) = achieving motive at the first, second, third tests  
 ALE(1), ALE(2), ALE(3) = overall attitude toward the learning environment at the first, second, and third tests  
 n.s. = not significant

No significant correlation was found, indicating that the subjects' overall attitude toward the classroom learning environment was not associated with any one of the five types of motivation for learning English. This lack of association can be explained by two characteristics of the subjects. First, they showed an intrinsic interest in English-speaking people and the English language. Second, they were guaranteed future employment if they could pass the course requirements. Under the circumstances, neither a negative nor a positive attitude toward the classroom learning environment was likely to make any difference when the purpose for learning was born of intrinsic interest and acceptance in the course, guaranteed, to a large extent, a successful career outcome as a teacher of English.

*iv) Relationships between subjects' motivations for learning English and their participation in out-of-class contact with English*

Correlational analyses were applied to determine the relationship between each of the five types of motivation for learning English and the overall participation in out-of-class contact with English. As indicated in 6.2 (i), the subjects' indications of their preferences for English or for Chinese in respect to listening, reading and speaking, and those of participation in out-of-class oral English activity, were treated as nominal variables in data analysis. These indications were also given scores in order to determine the overall participation in out-of-class contact with English. A score of 1 was given to preference to English and to participation in English activity, and a score of 0 was given to no preference, preference for Chinese, and non-participation in English activity. Details of the subjects' overall participation in out-of-class contact are displayed in Appendix 32. The analyses were directional. More particularly, integrative, instrumental, deep, and achieving motivations were

assumed to have a positive, but surface motive, a negative, relationship with the overall participation in out-of-class contact with English. The results are presented in Tables 40 and 41.

| <p><i>Table 40</i></p> <p><i>Correlation Coefficients between Integrative and Instrumental Motivations and Overall Participation in Out-of-Class Contact with English</i></p> <p><i>(Three Testing Sessions, 20 Subjects)</i></p> |           |           |        |           |           |
|---|-----------|-----------|--------|-----------|-----------|
| LC(1)   | LC(2)     | LC(3)     | LC(1)  | LC(2)     | LC(3)     |
| TM(1)   | -.08 n.s. |           | ISM(1) | -.32 n.s. |           |
| TM(2)   | -.05 n.s. |           | ISM(2) | .12 n.s.  |           |
| TM(3)   |           | -.03 n.s. | ISM(3) |           | -.03 n.s. |

Legend: TM(1), TM(2), etc = integrative motivation at first, second, etc. post-university English learning test  
 INS (1), INS (2), etc. = instrumental motivation at first, second, etc. post-university English learning test  
 LC(1), LC(2), LC(3) = overall participation in out-of-class contact with English at the first, second, and third tests  
 n.s. = not significant

| <p><i>Table 41</i></p> <p><i>Correlation Coefficients between Three Types of Motives (Surface, Deep and Achieving) and Overall Participation in Out-of-Class Contact with English</i></p> <p><i>(Three Testing Sessions, 20 Subjects)</i></p> |           |           |       |           |          |       |           |          |
|---|-----------|-----------|-------|-----------|----------|-------|-----------|----------|
| LC(1)   | LC(2)     | LC(3)     | LC(1) | LC(2)     | LC(3)    | LC(1) | LC(2)     | LC(3)    |
| SM(1)   | .22 n.s.  |           | DM(1) | .08 n.s.  |          | AM(1) | .07 n.s.  |          |
| SM(2)   | -.06 n.s. |           | DM(2) | -.18 n.s. |          | AM(2) | -.03 n.s. |          |
| SM(3)   |           | -.32 n.s. | DM(3) |           | .25 n.s. | AM(3) |           | .17 n.s. |

Legend: SM(1), SM(2), SM(3). = surface motive at the first, second, and third tests  
 DM(1), DM(2), DM(3) = deep motive at the first, second, third tests  
 AM(1), AM(2), AM(3) = achieving motive at the first, second, third tests  
 LC(1), LC(2), LC(3) = overall participation in out-of-class contact with English at the first, second, and third tests  
 n.s. = not significant

No significant correlation was found between any one of the five types of motivation under discussion and overall participation in out-of-class contact with English. The absence of association between the subjects' motivations for English learning and their overall participation can be explained by the nature of this language program. As indicated in Table 4 (p.83), the subjects had an average of two to three English classes (about 2 to 3 hours) every day of the week (In China, a 6

working-day system is adopted). In addition, the average amount of time the subjects spent on the six sub-types of out-of-class contact with English was about 6.7 to 7.1 hours a day during the data collection period (See 6.2 ii, p.110). Thus, the subjects spent at least eight to ten hours a day on studying English. If their participation in other non-oral and oral activities, which were not estimated in terms of amount of time, was taken into consideration, the amount of time may be even greater. The subjects might have felt that they had already spent enough time on English and thus made little effort in seeking opportunities to learn or practise English outside the classroom.

v) *Relationships between surface, deep and achieving motives for learning English and surface, deep and achieving learning strategies adopted*

Correlational analysis was applied to determine the relationships between the two variables at three testing sessions following the subjects' English learning at the University. The assumption that motivation was related to learning strategy (See 4.4, p.64) was based on the claim by Biggs (1988) that each type of learning strategy was associated with its corresponding motive. More specifically, surface, deep, and achieving strategies are positively related to surface, deep, and achieving motives respectively. Surface strategy referred to the learning strategies which are essentially reproductive in order to meet the requirements of courses, deep strategy meant the behaviours which are aimed at finding out more knowledge, and understanding, using, and extending that knowledge, and achieving strategy referred to the "organisational behaviours that are supposed to characterise the model student, such as keeping clear notes, planning optimal use of time, and all those planning and organisational activities referred to as 'study skills'" (Biggs, 1988: 199). The results are presented in Table 42.

| Table 42  |          |  |                   |       |  |                   |          |  |
|---|----------|--|-------------------|-------|--|-------------------|----------|--|
| <i>Correlation Coefficients between Three Types of Motives (Surface, Deep, and Achieving) and Their Corresponding Learning Strategies<br/>(Three Testing Sessions, 20 Subjects)</i> |          |  |                   |       |  |                   |          |  |
| SS(1) SS(2) SS(3)   |          |  | DS(1) DS(2) DS(3) |       |  | AS(1) AS(2) AS(3) |          |  |
| SM(1)   | .13 n.s. |  | DM(1)             | .64** |  | AM(1)             | .37 n.s. |  |
| SM(2)   | .26 n.s. |  | DM(2)             | .62** |  | AM(2)             | .45*     |  |
| SM(3)   | .46*     |  | DM(3)             | .71** |  | AM(3)             | .63**    |  |

Legend: SM(1), SM(2), SM(3) = surface motive at the first, second and third tests

DM(1), DM(2), DM(3) = deep motive at the first, second and third tests

AM(1), AM(2), AM(3) = achieving motive at the first, second and third tests

SS(1), SS(2), SS(3) = surface strategy at the first, second and third tests

DS(1), DS(2), DS(3) = deep strategy at the first, second and third tests

AS(1), AS(2), AS(3) = achieving strategy at the first, second and third tests

n.s. = not significant

\* = significant ( $p < .05$ , one-tailed,  $df = 18$ )

\*\* = significant ( $p < .01$ , one-tailed,  $df = 18$ )

Only at the third testing session was surface motive and surface strategy significantly correlated ( $r = .46$ ). However, the consistent positive relationship appears to suggest that there was a trend that surface motive was related to surface strategy, though the relationship is weak.

Deep motive and deep strategy were significantly correlated in a consistent way. This suggests that the subjects with a high level of deep motive would adopt a high level of deep strategy.

At the second and the third testing sessions, achieving motive and achieving strategy were significantly correlated. The correlation coefficient of .37 at the first testing session was very close to the critical value of .38 at .05 level ( $df = 18$ ). These results suggested a trend that the variables were positively correlated.

The results displayed above indicate that generally, the learning strategies adopted by the subjects were congruent with their purposes of learning in this particular learning environment, and provide support for the Biggs' (1988) claims mentioned in 3.2 (i).

*vi) Relationship between subjects' adoption of learning strategies and their internal representations of their knowledge of the English language*

As shown in 8.1 (pp.137-150), the subjects exhibited a highly analytical knowledge of English grammatical rules in their performance of the Metalinguistic Judgment Test. This knowledge was reflected in the subjects' ability not only to pinpoint all five types of grammatical errors which they committed during their oral production, but also to correct the errors and state the target rules broken by these grammatical errors. Such an analytical knowledge of English grammatical rules appeared to be the result of the subjects' consistent adoption of an above moderate level of deep strategy (See 7.5 iii), which meant a search for more knowledge of the target language, during the three semesters.

*vii) Relationship between subjects' oral practice in and out of classroom and the development of a procedural knowledge*

As was described in Chapter 8, a great gap existed between the subjects' internal representations of knowledge of English grammar and the linguistic forms which they produced. This gap manifested itself in two ways. First, when the subjects were given the task to judge their own oral production in written form, they were able to locate the grammatical errors committed, correct these errors and then state the target rules broken by the errors (See 8.1, pp.137-150). Second, in the process of speaking,

the subjects were able to self-correct a growing number of types of linguistic errors (See 8.2 iii, pp.177-182).

This enduring gap between the subjects' knowledge of English and oral production clearly shows that during the three semesters of English learning at the University, the subjects' procedural knowledge was still very underdeveloped. In other words, the subjects never acquired a form of knowledge which would allow them an automatic access to their internal representations of their knowledge of English, such as selection of appropriate syntactic structures, retrieval of appropriate lexical items, and morphological marking. Probably, this was the result of the lack of oral practice both in and out of class. That is, without frequent oral practice, it was impossible for the subjects to routinise (i.e., automatise) the processes of retrieving appropriate linguistic features during oral production, and transfer these processes into their long-term memory. Thus, whenever they were faced with a real communication situation, like the regular elicitation sessions conducted in the study, they had to allocate a large amount of attention to searching for appropriate linguistic features and uttering them in order to achieve their communication goals. This procedure was slow, cognitively controlled, necessitated close attention and required execution of a number of procedures; at the same time the subjects were under pressure not to breakdown the communication to the listener. As a result, errors of oral production abounded because the communication situation did not allow enough time to be spent on the choice of appropriate linguistic forms.

*viii) Relationships between functions under examination, and linguistic forms and strategies adopted by subjects during oral production*

More specifically, three types of relationship between these variables will be discussed. They are the relationship between discourse functions and linguistic forms, the relationship between discourse functions, time reference, and linguistic forms, and the relationship between discourse functions and production strategies. These relationships will first be discussed in synchronic terms before being dealt with in diachronic terms.

**The relationship between discourse functions and linguistic forms** The results of analysis of the subjects' use of linguistic forms, when expressing foreground and background information, have shown that the two discourse functions had some selective impact on the subjects' choice of linguistic forms, viz. types of sentence, types of verb, and verb forms.

Thus, since background information elaborates, explains, or comments on the event line (foreground information), the meaning to be conveyed is more

complicated and so the subjects have to use more types of sentence to meet the requirements for adequate expression. This could be seen from their exclusive use of subject + link verb + other elements, there + be in various inflectional forms + other elements, interrogative sentence, and all the sentence patterns to express background information. The subjects' choice of verb type also indicates the impact of the two discourse functions. Since the function of foreground information lies in pushing the story line forward, the description of action is required. Naturally, the subjects mostly used dynamic verbs, although occasionally they also used stative verbs to express the accompanying information. Similarly, as background information elaborates, explains or comments on foreground information, both action and state of affairs have to be expressed. Therefore, dynamic and stative verbs were used more evenly to describe actions and states of affairs respectively. The subjects' choice of verb forms also indicated the impact of foreground and background functions. However, in this case the impact may have been indirect, because the choice of verb forms was related to that of sentence types. Since the expression of background information required more types of sentence, so more types of verb form were employed in background than in foreground sentences. The simpler meaning conveyed in foreground information and the more complicated meaning conveyed in background information also explained the fact that the subjects used a smaller number of non-target verb forms when expressing foreground than when expressing background information.

Development in terms of relationship between the discourse functions and linguistic forms was reflected in the subjects' ability to use more types of sentence and more types of verb form, both target and non-target, during oral production as the learning proceeded. This appears to indicate the subjects' growing ability to express more ideas in oral English. However, their underdeveloped procedural knowledge often let them down as more ideas were expressed at the expense of linguistic accuracy. The more types of non-target verb form in the analyses performed (8.2 i pp.166-169) are indicative of this.

Two aspects of this development are worth mentioning. One is that the sentences used by the subjects did not involve any structural movement over time. In addition, the word orders of sentences used were generally correct according to Standard English. Even those non-complete sentences exhibited target-like word orders except for the missing grammatical elements such as subject, verb and main clause. In these cases, one could not say that the subjects were ignorant of the structures of sentences. Rather, these non-complete sentences appeared to result from the subjects' failure to express the ideas clearly, as indicated by sentences without subjects and complex sentences without main clauses, or from the subjects' ignorance of usage or meaning of certain lexical items, as indicated by sentences without verbs and

unfinished sentences. This ability to use sentences with target word order appears to be the result of language instruction. That is, the word order of the sentences had been explained to the subjects during English classes (both in the secondary schools and at the University). Thus, they did not have to work out the order of structural elements through a large amount of actual daily communication with native-speakers of the target language, as the untutored L2 learners did.

The other aspect of development worth mentioning is the subjects' tendency to use irregular verbs in past tense after more types of linguistic features, such as auxiliaries and modal verbs, not requiring verb forms in past tense. This has been attributed to the subjects' growing awareness of the past time reference in their oral narratives, and also to their sub-conscious treatment of irregular verbs in past tense as independent lexical items because of these verbs' special pronunciations in relation to their surface forms, e.g., went (go), took (take) (See 8.2 i, p.169). This provides another perspective in which development in L2 oral ability in this particular learning environment can be viewed. That is, as the learning proceeded, the subjects may have imposed higher demand on their oral production. They may have wished not only to be able to express more ideas, as can be seen from larger number of linguistic features they produced, but also to express them more accurately. However, the underdeveloped procedural knowledge prevented them from achieving both objectives at the same time during the oral production. Once the attention was allocated to the concept, linguistic accuracy suffered. Since irregular verbs in the past tense had been practised as independent lexical items, they were more likely to be used when the subjects' attention was on the concept.

**Relationship between discourse functions, time reference, and linguistic forms** The impact of the discourse functions of "foreground" and "background" was also reflected in the subjects' choice of time reference. As foreground information was mostly about the actions that took place before the time of speaking, the subjects' time reference made was usually the past, although sometimes non-past time reference was made in subordinate clauses (in complex sentences) that added supplementary information to the meaning expressed in main clauses. Since the subjects often explained or commented on the story line when expressing background information, actions or states of affairs referred to did not always happen or exist before the time of speaking. Therefore, both past time and non-past time had to be referred to.

It has been found that the past time reference in both foreground and background information was mostly under-represented. In other words, the subjects did not always mark verbs for past tense even when the time expressed in verbs referred to the past. It was unlikely that the subjects did not know that verbs in past tense should

be used when past time was referred to, because, when performing the Metalinguistic Judgment Test, they all indicated their abilities to locate and correct tense errors made by themselves during oral production. In addition, they were all able to state the target rules broken by their tense errors. The reason for the subjects' lack of consistency here may lie in the different pronunciation systems of Chinese (the subjects' first language) and English. In Chinese, a lexical item never has a final consonant cluster, such as the /st/ in the English word "test". However, the oral indication of regular verbs in past tense in English often requires the utterance of a final consonant cluster, such as /a: skt/ (asked) and /rifju: zd/ (refused). Therefore, the subjects could have had difficulties pronouncing final consonant clusters when marking regular verbs orally for past tense, especially since they did not have much oral practice either in or out of English classes.

However, the under-marking of past tense was not universal among the subjects. Some subjects occasionally marked verbs for past tense when the time reference was actually to the non-past. But such over-marking of past tense all took place in the expression of background information. This could have been caused by the more complicated time reference in the expression of background information and the subjects' lack of ability to select the correct verb forms in a short time, due to the underdeveloped procedural knowledge and the pressure of the oral communication situation.

As indicated in 8.2 ii (p.171), no regularity could be found in the accuracy with which the subjects marked verbs for past tense, and also, no development could be traced in the way in which the concepts of "past in the past" and "future in the past" were expressed, when the subjects were expressing the discourse functions of "foreground" and "background". Thus, development in terms of the relationship between discourse functions, time reference, and linguistic forms cannot be described in linguistic terms. Rather, the development of the relationship manifested itself in the subjects' ability to break the chronological order of the events described in their oral narratives after an extended period of English learning at the University. The development of this ability suggested a growing confidence of the subjects in the command of linguistic features which enabled them to express themselves in whatever manner they wished.

**Relationship between discourse functions and production strategies** Not only did the discourse functions of "foreground" and "background" influence the subjects' choice of linguistic forms, they also appeared to influence the subjects' self-correction of linguistic features and their use of communication strategies during oral production. As shown in 8.2 (iii), the subjects tended to self-correct more categories and also larger numbers of linguistic features when expressing background



information than when expressing foreground information. This seems to be related to the subjects' use of more categories, and larger number, of linguistic forms to express the more complicated meaning of background information. Similarly, the more complicated meaning expressed in background information might have caused more linguistic difficulties for the subjects. Thus, they had to resort to a larger number of communication strategies in order to solve linguistic problems in expressing background information.

Development in terms of production strategy was reflected in the subjects' ability to self-correct more types of linguistic features over time, and to use more sub-types of communication strategy during the oral production. It should be noted that the types of linguistic features that were self-corrected later, and less frequently, were those which did not affect the main ideas of the narratives, linguistic features such as article, number agreement and pronunciation. This again indicates the subjects' growing desire to be both conceptually and linguistically accurate in their oral production as the learning proceeded. Such a desire also reflects the influence of the classroom language instruction. Since knowledge of the English language had been the focus of language instruction throughout the three semesters, the subjects may have been conditioned, so to speak, to become more and more conscious of the linguistic accuracy in their target language production. Therefore, as the subjects felt they were more knowledgeable about the target language, they set higher demands on their own production, and so linguistic accuracy became one of the aims they tried to achieve during the production, the other being the conceptual accuracy. When their underdeveloped procedural knowledge frequently prevented them from automatic access to the appropriate linguistic features, they resorted to more intensive monitoring to fulfil their higher demands on their own production.

The subjects' ability to use more sub-types of communication strategy during the oral production suggested that as they became more experienced in oral presentation, they could find more ways to solve their problems of communication.

*ix) Relationship between subjects' oral learning outcomes and subsequent oral English practice*

The subjects' oral learning outcomes appeared to exert a negative influence on their subsequent English oral practice. As shown in 6.2 (iv), the subjects participated significantly less in out-of-class oral activity in the second and the third semesters than in the first semester, suggesting that the subjects became less interested in oral English practice as the learning proceeded. In the context of this course, there were two clear reasons for this. One was that oral ability was not stressed during the teachers' instruction, although it was one of the three language skills which the subjects were supposed to develop. The other reason was related to first. The lack of

oral practice resulted in a very under-developed procedural knowledge, which did not allow the subjects a fast, automatic, unattended, and simultaneous access to their internal representation of knowledge of English during oral production. Thus, the subjects' oral production was characterised by constant errors and breakdowns for self-correction. The subjects might not have been satisfied with such oral learning outcomes. This dissatisfaction with their own oral ability might have further hindered them from seeking more opportunities to do oral practice. In a word, it was the subjects' possible dissatisfaction with their own oral learning outcomes that led to less and less oral practice over time. The subjects' oral learning outcomes, in turn, were the results of the neglect of oral practice, which was not encouraged by the language instruction in the classroom.

### 9.2 Summary of the interpretations of results in terms of the nine types of relationships

The subjects' positive attitude to learning English was not affected by their classroom learning experiences. However, their attitude toward the classroom learning environment was positive in the first and the third semesters, but negative in the second, appearing to be sensitive to their classroom learning experiences. Thus, in this particular learning environment, a negative attitude toward the classroom learning environment, caused by negative classroom learning experiences, did not appear to affect the subjects' attitude to learning English.

The subjects' attitude to learning English was related positively to their integrative motivation for learning English, and to their desire to find out more about the target language (i.e., deep motive). However, this attitude had a weak positive association with instrumental motivation and with achieving motive, and also tended to be related negatively to surface motive. The association between this attitude on the one hand, and integrative motivation and deep motive on the other, was attributed to the subjects' intrinsic interest in English-speaking and the English learning. The lack of relationships between this attitude on the one hand, and instrumental motivation, surface motive and achieving motive on the other, were regarded as probably resulting from the subjects' lack of utilitarian purposes for learning English because of their secured career after graduation.

Attitude toward the classroom learning environment was not associated with any one of the five types of motivation for learning English, viz. integrative motivation, instrumental motivation, surface motive, deep motive, and achieving motive. The absence of correlations appeared to be related to the subjects' intrinsic interest in English-speaking people and English learning, and the ease with which they were likely to fulfil their purpose of learning English.

There was a lack of association between the five types of motivation for learning English and overall participation in out-of-class contact with English. This implied that the nature of the language program, including a heavy assignment load, may have affected the subjects' desire to seek more exposure to the target language outside the classroom.

The subjects' surface motive had a trend to be related to their adoption level of surface strategy. Their deep motive were consistently correlated with their adoption level of deep strategy, and their achieving motive had a strong tendency to be associated with their adoption level of achieving strategy. This suggests that the subjects' motives for learning English in this particular learning environment were basically associated with their adoption of congruent strategies.

The subjects' consistent adoption of an above moderate level of deep strategy appeared to be channelled by the emphasis on knowledge of English during classroom instruction into searching for only knowledge of the English language without using the knowledge in oral practice. The result of adopting this strategy was a highly analysed knowledge of the English language. On the other hand, the lack of oral practice both in and out of the classroom resulted in an underdeveloped procedural knowledge. Such a knowledge, together with the pressure of communication situation, was responsible for the constant errors which the subjects made during oral production.

The nature of the discourse functions of "foreground" and "background" exerted a selective impact not only on the subjects' choice of syntactic structures, types of verb, and verb forms, but also on the time reference, and adoption of self-corrections and communication strategies. The more complicated time reference required in expressing background information, together with the pressure of communication situation, and the subjects' underdeveloped procedural knowledge, may be the causes of over-marking of verbs for simple past tense, while the difference between the phonetic systems of English and Chinese appeared to explain the under-marking of the verbs for simple past tense.

The absence of structural movement over time in the sentences produced orally by the subjects was attributed to the classroom language instruction: the subjects did not have to work out the target syntactic structures from daily communication with the native speakers of the target language, as the untutored L2 learners did. The development of the subjects' ability to break the chronological order when describing orally events of narratives suggested a growing confidence on the part of subjects in their command of linguistic forms to express their ideas in whatever manner they wished. The trend to use irregular verbs in past tense after growing number of auxiliaries and inflectional forms of the link verb "to be", and to self-correct more types of linguistic features (i.e., those features that did not affect the main idea of

narratives), during oral production were attributed to the imbalance between the subjects' growing desire to be both conceptually and linguistically accurate on the one hand, and their under-developed procedural knowledge on the other. This growing desire appeared to be a product of the emphasis on knowledge during the classroom language instruction. The growing number of self-corrections suggested one of the methods which the subjects adopted to address this imbalance. The other method was the adoption of growing number of communication strategies. Thus, the following factors were regarded as responsible for the linguistic and non-linguistic aspects of the subjects' oral English ability development summarised above:

(i) classroom language instruction, in which syntactic structures and rules were made clear to the subjects,

(ii) the subjects' growing confidence in their oral ability to express their ideas in whichever way they wished,

(iii) the subjects' growing desire to be both conceptually and linguistically accurate in their oral production, which, in turn, appeared to result from the emphasis on the knowledge of the target language during classroom language instruction,

(iv) the subjects' underdeveloped procedural knowledge, which prevented them from automatic access to their internal representations of the knowledge of English,

(v) the strategies adopted by the subjects to address the imbalance between (iii) and (iv) above during oral production.

The subjects' oral learning outcomes appeared to constitute some of the factors influencing subsequent oral English practice. More specifically, the subjects' oral production was characterised by a lack of fluency because of constant self-corrections. This lack of fluency was the result of the subjects' lack of control over their own oral production, which, in turn, was caused by the subjects' neglect of oral practice due to its lack of emphasis by teachers in the classroom. Thus, the subjects' possible dissatisfaction with their oral learning outcomes might have resulted in an increased lack of enthusiasm for oral English practice.

## Chapter 10 Summary, Some Conclusions, and Recommendations

### 10.1 Summary

The present study set out to investigate two major problems of oral English development in the Chinese context (i.e., a foreign language classroom setting). One was the description of the learners' oral English development in terms of "function-form" relationships. The other was whether, and if so, how, some learner-external and learner-internal factors influenced the learners' oral English development. The learner-external factors chosen for investigation were English classes which the learners attended and the learners' out-of-class contact with English. The learner-internal factors chosen for investigation were the learners' attitude toward, and motivation for, learning English, and their learning strategy.

Before these factors were investigated empirically, a conceptual framework of oral English development in a foreign language classroom was established which delineated the relationships between the factors to be investigated. This conceptual framework was based on (i) a review of some representative theories of L2 learning, (ii) a review of the related literature on L2 learning, and (iii) the characteristics of English learning in the particular learning contexts to be investigated in this study - Foreign Languages Department of Fujian Teachers University. The review of some representative theories of L2 learning enabled the establishment of relationships between four aspects of L2 learning in which the learner-internal and learner-external factors belonged. These four aspects were: learning environment, individual characteristics, cognitive process, and learning outcomes. Then the empirical research related to each of the four aspects was reviewed. The results of this review enabled a further identification of concepts relevant to factors such as formal English class, attitude, motivation, and oral English production. It also helped establish the relationships between the factors such as attitude, motivation and learning strategies. Finally, based on the characteristics of English learning in the particular learning contexts investigated, the relationships between the learner-internal and learner-external factors were conceptualised.

Central to the framework of oral English development in the foreign language classroom setting were two concepts. One was that, for adult L2 learners, oral English development in terms of "function-form" relationships is actually the development of the learners' oral linguistic ability to express the concepts (functions) which they have already acquired. The other concept was that the development of

oral linguistic ability in a foreign language classroom setting consists of two stages. In the first stage, knowledge of the English language is gained. The result of this learning is an internal representation of knowledge of the English language. How much is learnt depends on the three interrelated individual characteristics, viz. attitudes in relation to English learning and toward the classroom learning environment, motivations for learning English, and learning strategies. In the second stage, the learners apply their knowledge of English into oral use. How often the learners will seek opportunities to practise oral English depends on their motivations for learning English. The result of oral practice is a procedural knowledge, the development of which will gradually allow the learners faster, more unattended, more automatic and more simultaneous access to their internal representations of the knowledge of English during oral communication. The oral learning outcomes will affect the learners' subsequent oral practice in English.

Empirical investigation into the learner-internal and learner-external factors chosen for study produced the following important results. In terms of the English classes, knowledge of the target language was the focus of the instruction. Though listening, reading and speaking were the three language skills which the subjects were supposed to develop in the classroom, the subjects were given few opportunities to speak during the classes. In addition, the types of oral practice which the subjects were required to maintain in the classroom were invariably prepared and mechanical. Thus, the subjects never actually had the opportunity to engage in a two-way communication in which they could use English creatively. In terms of the out-of-class contact with English, the majority of activities in which the subjects participated were non-oral. Participation in oral activity became less and less over time.

In terms of the individual characteristics, the subjects indicated a positive attitude in relation to English learning prior to their English learning at the University. This characteristic remained unchanged during the three semesters at the University. However, their overall attitude toward the classroom learning environment became negative in the second semester, apparently caused by significantly higher level of English class anxiety and less positive attitude toward teaching methods. Obviously, the subjects' attitude in relation to English learning was not affected by their classroom learning experiences. But they appeared to be sensitive to the changes in their learning environment, and responded accordingly.

The subjects also indicated a high level of integrative motivation, and a high level of instrumental motivation prior to their English learning at the University. Similarly, these individual characteristics were unchanged during the three semesters of English learning at the University. Regarding the motives for learning at the University, the subjects consistently indicated that they wanted to find out more

about the target language (i.e., had an above moderate level of deep motive), and to obtain high grades in the examinations (i.e., had an above moderate level of achieving motive), not just to meet the requirements of courses (i.e., had a below moderate level of surface motive). It was found that the subjects' attitude in relation to English learning was positively associated with their integrative motivation and deep motive, suggesting an intrinsic interest in English-speaking people and the English language. But the associations with instrumental motivation, surface motive, and achieving motive were weak. The lack of utilitarian purpose for learning English among some subjects because of a secured future career was suggested as a possible explanation of these weak relationships. The attitude toward the classroom learning environment was not related to any one of the five types of motivations for learning English, suggesting that the intrinsic interest in English-speaking people and the English language, and the ease with which the subjects could possibly fulfil their utilitarian purpose for learning English could help overcome their negative attitude toward the English learning environment.

The learning strategies they claimed they often adopted were consistently those which would allow them to find out more about English (i.e., deep strategy) and to make their learning more efficient (i.e. achieving strategy). In addition, the subjects' adoption levels of surface, deep and achieving strategies were generally associated with their levels of surface, deep and achieving motives, showing the relatedness of a motive for learning and its congruent learning strategy.

The subjects' oral learning outcomes exhibited three salient characteristics. The first was a great gap between the highly analysed knowledge of the English language and the actual oral production, which was characterised by errors and constant self-corrections.

The second characteristic was that the discourse functions of "foreground" and "background" exerted a selective impact not only on the subjects' choice of linguistic features such as sentence structures, types of verb, and verb forms, but also on the subjects' time reference, and adoption of self-corrections and of communication strategies.

The third characteristic was that the development of the subjects' oral English ability to express the functions under examination could be described both linguistically and non-linguistically. Linguistically, the development was reflected in more types of sentence and verb forms (both target and non-target) which the subjects were able to produce orally. However, the sentences used did not involve any structural movement over time. Non-linguistically, the development manifested itself in four respects. First, all the subjects showed an ability to break the chronological order of the events described in their oral narratives some time following their English learning at the University. Second, the majority of the

subjects indicated a growing awareness of the past time reference in their oral narratives by using irregular verbs in past tense after more and more auxiliaries and inflectional forms of the link verb "to be". Third, all the subjects showed an ability to self-correct more and more types of linguistic features during oral production. Finally, all the subjects adopted more sub-types of communication strategies, showing their growing ability to cope with communication problems, though code-switching was the most preferred strategy. The classroom language instruction, in which syntactic structures and rules were explained; a growing confidence in their ability to express orally the ideas in whichever way they wished; a growing desire to be both conceptually and linguistically accurate in their oral production, which, in turn, appeared to result from the emphasis on knowledge during classroom language instruction; an under-developed procedural knowledge; and strategies adopted to address the imbalance between the desire for accuracy and underdeveloped procedural knowledge, these factors might have made their oral English ability develop the way it did.

The outcomes of subjects' oral learning did not appear to affect their subsequent learning of knowledge of the English language. But it might have caused a dissatisfaction with their own oral production, which, in turn, could have resulted in their loss of interest in further oral practice.

### **10.2 Some conclusions**

The following important conclusions can be drawn from the above summary of the findings of an empirical investigation into the two major problems of adult English learning in the Chinese context. These conclusions are discussed in relation to these two major problems.

#### **Oral English development in terms of "function-form" relationships**

(i) It was obvious that the nature of discourse functions of "foreground" and "background" has a selective impact on L2 learners' choice of linguistic forms during oral production. *However, in the naturalistic setting and in the foreign language classroom setting, the types of the linguistic forms used by the learners may be different.* For example, Kumpf's (1984) non-instructed L2 learner used the base-form verb exclusively for completed action in foreground sentences, but marked most verbs for tense in background sentences. However, in this study, the subjects tried to mark verbs for tense in both foreground and background sentences, though the accuracy of verb marking in foreground sentences was higher than that in background sentences. This suggests that while the "function-form" approach to the



variability of L2 learners' interlanguages does enable one to bring out the systematicity from the performance variations, the systematicity may assume different forms under the naturalistic setting and the foreign language classroom setting.

Developmentally, non-instructed and instructed L2 learners shared some similarity in their indication of time reference in oral narratives. For example, at the beginning stage, they all followed the "principle of chronological order" (von Stutterheim and Klein, 1987) in describing the events. At later stage of the learning, they began to break the chronological order, and so this principle became one of the options for organising the events. However, there were some differences in the indication of time reference. For example, unlike the non-instructed L2 learners at the beginning stage of speaking, the subjects, from the early stage of speaking, did not rely on pragmatic devices such as "contrast two or more events" (Meisel, 1987), "associative reference" (i.e., relying on the shared knowledge of speaker and listener) (von Stutterheim and Klein, 1987) to indicate relationships between events and time reference. Rather, they were able to use linguistic devices to show relationships between events and to indicate reference to past time, as reflected in their early ability to mark verbs for concepts like "past in the past" and "future in the past", and for simple past. This appears to suggest that, due to their different learning experiences, instructed L2 learners would be more able to rely on linguistic devices to express complicated ideas than their non-instructed counterparts in the early stages of oral narration.

(ii) Development of instructed L2 learners' oral ability in the target language manifested itself not only linguistically, but also non-linguistically. In the foreign language classroom setting, the non-linguistic development was, among other things, reflected in the learners' growing awareness of the concepts they were expressing, and a growing ability to self-correct more types of linguistic forms, and also to cope with communication problems. The imbalance between a growing desire to be both conceptually and linguistically accurate in language production and an underdeveloped procedural knowledge was held responsible for these aspects of the non-linguistic development of the learners' oral ability. However, this type of development was achieved at the expense of both more production errors, and more breakdowns during oral communication, as more self-corrections occurred in order to achieve both conceptual and linguistic accuracy. Therefore, on the surface, the learners may appear to become less fluent in their oral production as they learned more about the target language, creating an impression that they were retrogressing rather than progressing.

### Influence of learner-external and learner-internal factors on oral English development

It appeared that in the particular learning environment investigated in this study, the following factors played a key role in affecting the subjects' oral English ability development: attitude in relation to English learning, integrative motivation, deep motive, and the classroom language instruction.

The study has shown that the subjects' intrinsic interest in English-speaking people and English learning (as indicated by their consistent positive attitude in relation to English learning and integrative motivation) enabled them to overcome their negative attitude toward the classroom learning environment (in the second semester). Although a secured future career might be responsible for some subjects' lack of utilitarian purpose for learning English, their intrinsic interest in the target language still made them wish to find out more about the English language, and understand, use and extend that knowledge (i.e., having an above moderate level of deep motive). This wish to find out more about the English language was associated with the subjects' adoption of the type of learning strategies that enabled them to do so. *Thus, the way the subjects felt about learning English determined the way they went about learning English.*

However, influenced by the constant emphasis on the knowledge of English during classroom instruction, the subjects may have concentrated more on the "facts" about the target language (i.e., grammar and vocabulary) than on using the knowledge learned (e.g., oral practice) when they adopted deep learning strategy. *Thus, the way the subjects went about learning English was dictated to a large extent by what was emphasised constantly during the language instruction.* Probably, such an emphasis was responsible for the subjects' development of a highly analytical knowledge of English. This emphasis on knowledge, together with the size of class and small amount of hours for oral class, made it impossible for the teachers to provide the subjects with enough opportunities to take part in oral practice during the class. On the other hand, the subjects were not motivated to engage in oral practice outside classroom because the oral skill was not emphasised. The lack of oral practice either in or out of class resulted in an underdeveloped procedural knowledge. It was the imbalance between a highly analytical knowledge of English, a growing desire to be both conceptually and linguistically accurate in English production, and an underdeveloped procedural knowledge that shaped the non-linguistic aspect of oral English ability development.

### **10.3 Recommendations**

The complexity of oral English development in a foreign language classroom setting, like the one investigated in this study, became readily apparent as the project unfolded. As a preliminary attempt at understanding English learning in China, this detailed study of one classroom has found some things which have practical implications for English teaching in China. At the same time, it leaves much that is yet to be studied and clarified if a comprehensive understanding of English learning in China is to be gained. The following recommendations for teaching and for research flow out of the work done in this project.

#### **English teaching in China**

(i) As has been shown, the subjects of the study exhibited an intrinsic interest in learning English. This intrinsic interest has enabled them to overcome their negative attitude toward the classroom learning environment. It was also associated with the subjects' motives for finding out more about the English language, which, in turn, was related to their adoption of corresponding learning strategy. Thus, it is the teacher's responsibility to foster students' intrinsic interest in English at the early stage of English learning. In China, this means that such efforts have to be made during the secondary school years. Because at this stage, although the study of English language begins, students usually cannot see why they are studying English, except that it is a subject in the curriculum. Any loss of interest at this stage will affect their future learning of the target language if they continue to study it at all. On the other hand, it would appear that the development of such an interest will enable them to achieve higher proficiency in the target language if they continue their study of English at the tertiary level.

(ii) It is not enough just to offer an oral class in order to teach students how to speak a second language. The actual implementation of the course is far more important. Three issues have to be addressed during the implementation of the course. First, the size of class should be small and the class time spent on oral activity should be increased. In this study, 20 subjects attended the oral class at the same time, and each week there were only two to three hours for oral class. Thus, each subject could get only a few minutes individual practice in each class. Second, more knowledge of the target language should not be the focus of the class. The teachers in the study spent a large amount of time explaining the meaning of lexical items of the oral practice materials, and talking about traditions and cultures of foreign countries. The amount of teacher talk further reduced the subjects' chances of oral practice during the already limited oral class hours. Third, the type and the

content of oral practice should try to match students' growing knowledge of the target language, and their growing desire to express more complicated ideas in the target language. The subjects of this study became reluctant to participate in class oral practice during the second semester because they thought that the type of practice was too simple, and the content was dull.

(iii) Information on the research into process of foreign language learning should be part of the program in the education of teachers of English in China. In other words, special courses such as "English Learning in the Foreign Language Classroom Setting" should be designed and included in the curriculum for students of English in teachers colleges and universities in China. The reason for this suggestion is that the teachers' understanding of the process of English development in a foreign language classroom setting is the key to the improvement of English teaching in China. For example, if the teachers understand the non-linguistic aspect of students' development in oral ability, they may not get impatient with students for their less fluent oral production as the learning proceeds. Instead, they may find ways to address the problem. If teachers know that in a foreign language classroom setting, what is emphasised in the language instruction would to a large extent influence students' adoption of learning strategy, and finally the learning outcomes, they would be in a better position to design their teaching methods to suit their teaching objectives.

### Further research

(i) This study did not investigate the influence of linguistic factors on the subjects' oral English development. However, such an influence was apparent in some respects. For example, the relative ease with which the subjects were able to produce irregular verbs orally in past tense and the difficulty which the subjects encountered in marking regular verbs for past tense indicated both the influence of the subjects' first language, i.e., Chinese, and also the nature of the English surface verb forms. Further research is needed to investigate the extent to which oral English production of Chinese learners is influenced by these factors.

(ii) It was found in this study that non-linguistic development (i.e., growing awareness of the concepts being expressed, growing ability to self-correct linguistic forms, and to cope with communication ability) in oral L2 ability in the foreign language classroom setting is achieved at the expense of constant breakdown of communication because of self-corrections of the linguistic features. This, in turn, created an impression that the learners did not progress, but rather retrogressed, in their oral competence. Two interesting research questions are (a) how long, in such a learning context, this non-linguistic development will last before fluency improves

without reducing the accuracy of linguistic forms and concepts expressed: (b) what are the cognitive mechanisms underlying the phenomena of this apparent retrogression, and the subsequent progress in oral fluency exhibited by competent English speakers of Chinese language background.

(iii) The subjects in this study were the students who chose to major in English of their own accord. Thus, they were a special group of learners who had an intrinsic interest in learning English. The language program in which they were enrolled required that they spend almost all their time in learning English. The focus of teaching was on the knowledge of the target language. The subjects were given little opportunity to engage in oral practice during classes. The results have shown that these characteristics exerted strong influence on the ways in which English was learned, and on the ways in which the oral English ability developed. It would be valuable to carry out a comparative study with adult students of English in other types of language programs to see how the characteristics of the learners and the nature of language program influence the psychological and cognitive aspects of the learning process, and the development of oral ability.

(iv) As a preliminary attempt to investigate English learning in the Chinese context in a single theoretical framework, the study has examined a number of variables in relation to English learning. The findings of the research have revealed the complicated nature of the relationships between these variables. However, due to the limited time and resources, and the exploratory nature of this project, the study was restricted in terms of the size and number of the sample, and thus of the analyses which be utilised. It is suggested that with some refinement of the instruments, a larger sample, and more sophisticated statistical techniques, follow-up studies could be designed to investigate in more detail the complexity of the relationships revealed.

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## Appendix 1

### A Summary of Approaches to Interlanguage Variability

(Based on Tarone, 1988)

| Approach  | View of IL Variation  | Evaluation  |
|---|---|---|
| <b>Monitor Theory</b><br><br>(Krashen 1981, 1982)   | Variability is caused by use or non-use of the metalinguistic system -- Monitor   | (1) Some key constructs such as "acquired knowledge" and "Monitor" are unobservable and thus unprovable,<br><br>(2) It cannot account for a wide range of variability because it has examined only one kind of variability -- use or non-use of Monitor,<br><br>(3) The concepts of self-correction by "Monitoring" and self-correction by "monitoring" i.e. "feel", do not fit with some personal experience of learning a L2 (e.g. McLaughlin 1978) |
| <b>"Chomskyan" Models</b><br><br>Adjemain (1976, 1982);<br>Licera (1981)<br><br>Licera (1987) | <p>Variation occurs when the learner <i>produces</i> the language in communicative situations due to production processes, performance errors and the "permeability" of the IL system. IL competence is homogeneous.</p> <p>IL competence is variable, but the variability of IL is due to speech-production processes.</p> | (1) Both versions cannot explain the empirical findings of Licera's (1987) own study.<br><br>(2) Licera's (1987) version lacks internal consistency   |

(continued)

| Approach   | View of IL Variation   | Evaluation  |
|--|--|---|
| <b>Psychological Processing Theories</b><br><br>Bialystok (1982)<br><br>Bialystok & Sharwood-Smith (1985)<br><br>Ellis (1986)              | <p>Variation in IL performance is due to the way in which different tasks and routines place differing demands upon either <i>knowledge</i> (i.e. the learner's knowledge of language ) or <i>control</i> (i.e. the learner's ability to use that knowledge in communicative performance ) system. The knowledge can be analysed or unanalysed, and the control can be automatic or unautomatic.</p> <p>Diachronic variation is due to the change in the learner's knowledge of the language over time, while synchronic variation is caused by the processing constraints that operate on the learner's knowledge of the system and so may be termed "control variability". But "control variability" may affect knowledge.</p> <p>Variation in IL is due to a variable competence containing "+/- analysed" "+/- automatic" knowledge, and to variable application of procedures for using that knowledge in discourse</p> | <p>(1) The empirical data produced do not warrant even the inference of the existence of such constructs as "analysed knowledge" and "automatic control process"</p> <p>(2) The 1985 version obscured the distinction between "knowledge" and "control" and also since it was based on the research in experimental psychology which focuses on the learning of "information", the metaphor of "information-processing" may not be fitting in the case of L2 learning. So it violated the fourth criterion.</p> <p>(1) It is unfounded empirically.<br/>(2) The metaphor used is not maintained throughout the discussion of the model.</p> |
| <b>'Labovian' Models</b><br><br>Dickerson L (1974,1975)<br>Dickerson W (1976),<br>Dickerson & Dickerson (1977)<br>Tarone (1979, 1982 1983) | <p>Variability in IL is caused by style-shifting along this IL continuum, which, in turn, is caused by variable shifts in the degree of attention which the learner pays to language form and situational factors (e.g. interlocutor)</p>  | <p>The concept of "attention to speech" is very difficult to verify independently.</p>  |

(continued)

| Approach   | View of IL Variation   | Evaluation  |
|--|--|---|
| <b>Multi-dimensional Model</b><br>(Meisel et al 1981)                    | IL variation occurs as the result of particular strategies of using linguistic rules in some linguistic environments and not others. The adoption of the strategies depends on the learner's socio-psychological characteristics such as social distance, attitude and motivation.                               | This theory meets Criteria 1, 2, and 4, but fails to meet Criterion 3.  |
| <b>Speech Accommodation Theory</b><br>(Beebe and Giles 1984)             | IL variation is the result of the adjustments made by the learner to mark his/her intergroup distinctiveness and to assert his/her identity in terms of one or another group.  | This theory meets Criteria 1, 2, and 4, but fails to meet Criterion 3.  |
| <b>"Discourse domains" Model</b><br>(Selinker and Douglas 1985)          | IL variation is the result of the different use by the L2 learner in the <i>learner-defined</i> social contexts, i.e. "... the learner perceives certain social contexts as different from other social contexts, and consequently his/her use of language in those contexts differs." (51)                      | This theory meets Criteria 1 and 2, but fails to meet Criteria 3 and 4.   |
| <b>Function-form Models</b><br>(Hakuta 1975, 1976<br>Huebner 1983, 1985) | Variation in IL is actually systematic because, in making a set of functional distinction in order to communicate, the L2 learner must systematically employ linguistic forms, though the forms may not be target-like. Synchronic variation in IL is to be expected, due to its developmental nature over time. | (1) This theory meets Criteria 1, 2 and basically 3, i.e. empirically, it cannot account easily for the evidence supporting "attention to speech".<br>(2) Theory fails to meet Criterion 4 for its confused and undeveloped use of the central term "function". |

## Appendix 2

### Questionnaire about English Learning in Secondary Schools

The following are a number of questions about your English learning in the secondary school years. Please answer each of these questions as objectively and accurately as you can.

Your answers are **CONFIDENTIAL**.

Thank you for your cooperation.

Name\_\_\_\_\_

Age\_\_\_\_\_

Graduating School\_\_\_\_\_

1. Which grade did you begin to learn English in the secondary school?
2. How many class hours did you have for English per week? (Please give details if the class hours per week were different in different grades during the secondary school years)
3. Please state briefly the way(s) in which English was usually taught.
4. Please state briefly the usual types of exercises in English you did.
5. In addition to the textbooks, did you do any out-of-class reading? (Give some examples if you did)
6. Did you listen to English broadcast? If yes, to what station(s) did you often listen and how often did you listen?
7. Did you speak or write in English? If yes, how often did you do it?

### Appendix 3

#### Language Contact Profile Questionnaire (LCPQ)

Name\_\_\_\_\_

1. Circle the average number of hours each day you read aloud texts

0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 5.5 6 6.5 7 7.5 8 8.5 9

2. Circle the average number of hours each day you memorised the vocabulary

0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 5.5 6 6.5 7 7.5 8 8.5 9

3. Circle the average number of hours each day you listened to the tape in English

0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 5.5 6 6.5 7 7.5 8 8.5 9

4. Circle the average number of hours each day you did leisure reading in English

0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 5.5 6 6.5 7 7.5 8 8.5 9

5. Circle the average number of hours each day you read textbooks or teaching materials

0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 5.5 6 6.5 7 7.5 8 8.5 9

6. Circle the average number of hours each day you did the homework assigned by teachers

0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 5.5 6 6.5 7 7.5 8 8.5 9

7. If you had a choice between listening to Chinese broadcast or listening to English broadcast, you

- a. prefer Chinese broadcast
- b. prefer English broadcast
- c. have no preference

8. If you had a choice between speaking in Chinese or speaking in English, you

- a. prefer Chinese
- b. prefer English
- c. have no preference



9. If you had a choice between reading in Chinese or reading in English, you
- a. prefer Chinese
  - b. prefer English
  - c. have no preference

10. Did you spend time trying to improve your level of English proficiency outside the classroom? If yes, list the activities that you did outside the classroom that helped you learn English. (For example, reviewing the notes you kept during the class, keeping diaries or writing composition, speaking in English, studying grammar or vocabulary)

*Activity*

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_
- e. \_\_\_\_\_
- f. \_\_\_\_\_
- g. \_\_\_\_\_

**Scoring Procedures** (This part was not administered to the subjects in actual questionnaire answering)

- 1-6. Score one-half of the time reported (e.g., 1 hour = 0.5)
- 7-9. not scored, responses treated as a nominal variable. But when overall participation was calculated, b = 1, a & c = 0.
10. Score one point for each non-oral activity listed. Indication of participation in oral activity treated as a nominal variable. But when overall participation was calculated, indication of participation was scored 1, and that of no participation, 0.

# Appendix 4

## **The Attitude in Relation to English Learning Questionnaire (AELQ)** *(Administered before the subjects began English learning at the University)*

Name\_\_\_\_\_

The following questions ask you about your attitude toward the people and culture of English-speaking countries and also your interest in learning English.

Different people may repond differently to the same question. Even the same person may respond differently to the same question at different occasions. Therefore, the so-called "unchangeable" attitude does not exist. It is because of this that you are supposed to indicate only your *personal opinion* of each item, but not how you think each item *should be* viewed.

For each item, there is a row of five numbers. Please circle the number you choose as your response to the item.

The numbers stand for the following responses:

- 1 -- I totally disagree with this item
- 2 -- I basically disagree with this item
- 3 -- I am undecided about this item
- 4 -- I basically agree with this item
- 5 -- I totally agree with this item

### **Example:**

*I find English learning very interesting*

If you always found English learning very interesting, then it means that you totally agree with this item. You would circle 5 thus:

1            2            3            4            (5)

If you often, but not always, found English learning very interesting, then it means that you basically agree with this item. You would circle 4 thus:

1            2            3            (4)            5

If you often, but not always, found English learning boring, then it means that you basically disagree with this item. You would circle 2 thus:

1            (2)            3            4            5

Do not spend a long time on each time. Circle the number that best fits your immediate reaction. Your first reaction is probably the best one. However, do not be too careless in giving your response, because it is important to us that you indicated your true feeling.

Please answer each item. Do not worry about projecting a good image. Your answers are CONFIDENTIAL.

Thank you for your co-operation.

1. I find people from English-speaking countries such as United Kingdom, United States of America and Australia warm and friendly.

1            2            3            4            5

2. I want to know more about people from English-speaking countries such as United Kingdom, United States of America and Australia.

1            2            3            4            5

3. I think it is worthwhile to study the culture of the major English-speaking countries such as United Kingdom, United States of America and Australia.

1            2            3            4            5

4. The more I know about English-speaking countries, the more I want to learn more English.

1            2            3            4            5

5. I regard it as a loss not to know more about the people and the culture of the major English-speaking countries

1            2            3            4            5

6. I like English more now that I am enrolled to major in English in the university.

1            2            3            4            5

7. I still like to learn English despite the fact that I will be a teacher of English after the graduation.

1            2            3            4            5

8. I plan to learn as much English as I can in the university.

1            2            3            4            5

9. I do not feel less motivated to learn English because I am enrolled to study in a teachers' university.

1            2            3            4            5

10. I think English is one of the most important specialties in this University

1            2            3            4            5

**Specification of the Items under Each Attitudinal Aspect**

Attitude toward English-speaking People (AEP): 1, 2, 3, 4, 5.

Interest in English Learning (IEL): 6, 7, 8, 9, 10.

**The Order in Which the Items Were Presented in the First Administration of the Questionnaire after the Subjects Began English Learning in the University:**

1, 6, 2, 7, 3, 8, 4, 9, 5, 10

**The Order in Which the Items Were Presented in the Second Administration of the Questionnaire after the Subjects Began English Learning in the University:**

8, 2, 7, 1, 9, 3, 10, 5, 6, 4

**The Order in Which the Items Were Presented in the Third Administration of the Questionnaire after the Subjects Began English Learning in the University:**

6, 5, 10, 1, 7, 2, 9, 4, 8, 3

## Appendix 5

### The Motivation for Learning English Questionnaire (MLEQ) (Administered before the subjects began English learning at the University)

Name\_\_\_\_\_

The following questions ask you about your motivation for learning English.

Different people may respond differently to the same question. Even the same person may respond differently to the same question at different occasions. Therefore, the so-called "unchangeable" motivation does not exist. It is because of this that you are supposed to indicate only your *personal opinion* of each item, but not how you think each item *should be* viewed.

For each item, there is a row of five numbers. Please circle the number you choose as your response to the item.

The numbers stand for the following responses:

- 1 -- I totally disagree with this item
- 2 -- I basically disagree with this item
- 3 -- I am undecided about this item
- 4 -- I basically agree with this item
- 5 -- I totally agree with this item

#### Example:

*I have a strong motivation for learning English*

If you always have a strong motivation for learning English, then it means that you totally agree with this item. You would circle 5 thus:

1        2        3        4        (5)

If you often, but not always, have a strong motivation for learning English, then it means that you basically agree with this item. You would circle 4 thus:

1        2        3        (4)        5

If you often, but not always, have no motivation for learning English, then it means that you basically disagree with this item. You would circle 2 thus:

1        (2)        3        4        5

Do not spend a long time on each item. Circle the number that best fits your immediate reaction. Your first reaction is probably the best one. However, do not be

too careless in giving your response, because it is important to us that you indicated your true feeling.

Please answer each item. Do not worry about projecting a good image. Your answers are CONFIDENTIAL.

Thank you for your co-operation.

1. It is very important for me to study English, because it will make my life more convenient once I have the opportunity to live in an English-speaking country.

1                      2                      3                      4                      5

2. It is very important for me to study English, because it will enable me to understand more about the people and culture of the English-speaking countries.

1                      2                      3                      4                      5

3. A good command of English will enable me a freer access to the various activities attended by English-speaking foreigners.

1                      2                      3                      4                      5

4. I think it is very important for me to learn English, because it will enable me to understand more about the life style and moral principles of the people from the English-speaking countries.

1                      2                      3                      4                      5

5. I think I like to associate with the people from the English-speaking countries.

1                      2                      3                      4                      5

6. I need the knowledge of English in my future work, therefore, it is important for me to learn it well.

1                      2                      3                      4                      5

7. It is important for me to learn English well, because it will make me become more knowledgeable.

1                      2                      3                      4                      5

8. It is important for me to learn English well, because it will enable me to find a better job in my future life.

1                      2                      3                      4                      5

9. It is important for me to learn English well, because people will respect me if I know a foreign language.

1                      2                      3                      4                      5

10. It is important for me to learn English well, because it will make me more competitive in my future job.

1                      2                      3                      4                      5

*Specification of the Items under Each Motivation*

Integrative Motivation (INTM): 1, 2, 3, 4, 5.

Instrumental Motivation (INSM): 6, 7, 8, 9, 10.

*The Order in Which the Items Were Presented in the First Administration of the Questionnaire after the Subjects Began English Learning at the University:*

1, 6, 2, 7, 3, 8, 4, 9, 5, 10

*The Order in Which the Items Were Presented in the Second Administration of the Questionnaire after the Subjects Began English Learning at the University:*

8, 2, 7, 1, 9, 3, 10, 5, 6, 4

*The Order in Which the Items Were Presented in the Third Administration of the Questionnaire after the Subjects Began English Learning at the University:*

6, 5, 10, 1, 7, 2, 9, 4, 8, 3

**Appendix 6**

**The Attitude toward Classroom Learning Environment Questionnaire  
(ACLEQ)**

Name\_\_\_\_\_

The following questions ask you about your attitude toward your learning environment.

Without doubt, everyone will respond in his/her own way to each of the items in the questionnaire. Therefore, your indication of your true feeling is very important to us.

For each item, there is a row of five numbers. Please circle the number you choose as your response to the item.

The numbers stand for the following responses:

- 1 -- I totally disagree with this item
- 2 -- I basically disagree with this item
- 3 -- I am undecided about this item
- 4 -- I basically agree with this item
- 5 -- I totally agree with this item

**Example:**

The teaching methods adopted by the teachers are all very good

If you think that the methods adopted by the teachers in every course were very dull, then it means you totally disagree with this item. You would circle 1 thus:

(1)            2            3            4            5

If you think that the methods adopted by most of the teachers were good, only those adopted by some were not so satisfactory, then it means that you basically agree with this item. You would circle 4 thus:

1            2            3            (4)            5

If you think that the methods adopted by most of the teachers were dull, only those adopted by some were interesting, then it means that you basically disagree with this item. You would circle 2 thus:

1            (2)            3            4            5



Please circle the number that best fits your true feeling. Do not spend a long time on each item. Your first reaction is probably the best one. But do not be too careless. Try to answer each item as objectively as you can.

Do not worry about projecting a good image. Your answers are CONFIDENTIAL.

Thank you for your co-operation

*The Order in Which the Items Were Presented in the First Administration of the Questionnaire*

1. When I attend English class, I am afraid that teachers may ask me questions.

1                  2                  3                  4                  5

2. The teaching methods adopted by the teachers in this semester fits my present proficiency of English.

1                  2                  3                  4                  5

3. The teaching materials adopted in this semester just fits my present proficiency of English.

1                  2                  3                  4                  5

4. I feel nervous when I am asked to answer questions in the class, because I am afraid that I may not be able to provide answers.

1                  2                  3                  4                  5

5. I like the teaching methods adopted by the teachers.

1                  2                  3                  4                  5

6. The vocabulary in the teaching materials adopted in this semester is neither too easy nor too difficult. It fits my present level of English proficiency.

1                  2                  3                  4                  5

7. Attending English class makes me nervous.

1                  2                  3                  4                  5

8. In this semester, the teachers are able to adjust their teaching methods to suit our characteristics and levels of English proficiency.

1                  2                  3                  4                  5

9. The grammar of the teaching materials adopted in this semester fits my level of English proficiency.

1                  2                  3                  4                  5

10. I have to work really hard so that I will not lag behind others in the same class.

1                  2                  3                  4                  5

11. The teaching methods adopted by the teachers in this semester help greatly in enhancing my level of English proficiency.

1                  2                  3                  4                  5

12. The teaching materials adopted in this semester help greatly in consolidating my foundation of English.

1                      2                      3                      4                      5

Specification of the Items under Each of the Three Attitudinal Aspects

English Classroom Anxiety (ECA): 1, 4, 7, 10

Attitude toward Teaching Method (ATM): 2, 5, 8, 11

Attitude toward Course Materials (ACM): 3, 6, 9, 12

The Order in Which the Items Were Presented in the Second Administration of the Questionnaire

3, 2, 1, 6, 5, 4, 9, 8, 7, 12, 11, 10

The Order in Which the Items Were Presented in the Third Administration of the Questionnaire

11, 3, 1, 8, 6, 4, 5, 12, 7, 2, 10, 9.

# Appendix 7

## The English Learning Process Questionnaire (ELPQ)

Name\_\_\_\_\_

The items in this questionnaire ask you about your motives for learning English and your usual ways of learning English.

There is no so-called "right" way of learning English. It all depends on whether the strategies you adopt suit your style and the results of the adoption. Efforts have been made to ensure that the items cover the more important aspects of English learning and, accordingly, it is important that you answer each item as honestly as you can.

For each item, there is a row of five numbers. Please circle the number you choose as your response to the item.

The numbers stand for the following response:

- 1 -- this item is never or only rarely true of me
- 2 -- this item is sometimes true of me
- 3 -- this item is true of me about half the time
- 4 -- this item is frequently true of me
- 5 -- this item is always or almost always true of me

### Example:

*I like to read with my radio on, because at this time I can read most efficiently.*

If this was always or almost always true of you, you would circle 5 thus:

1                      2                      3                      4                      (5)

If you think you could read well only sometimes with radio on, you would circle 2 thus:

1                      (2)                      3                      4                      5

Please circle the number that best fits your immediate reaction. Do not spend a long time on each item. Your first reaction is probably the best. However, do not be too careless. Answer each item as objectively as possible.

Do not worry about projecting a good image. Your answers are CONFIDENTIAL.

Thank you for your co-operation.

*(The Order in Which the Items Were Presented in the First Administration of the Questionnaire)*

1. I feel happy when I pass examinations. I don't care if I get high grades.

1                      2                      3                      4                      5

2. I find that learning English gives me a feeling of deep personal satisfaction.

1                      2                      3                      4                      5

3. I want top grades in most or all of my courses so that I can be assigned a better position when I graduate.

1                      2                      3                      4                      5

4. I think doing out-of-class reading is just a waster of time, so I only do the homework assigned by the teachers and review what the teachers lecture on during the class.

1                      2                      3                      4                      5

5. When I am studying English, I associate what I learn now with what I have learnt before.

1                      2                      3                      4                      5

6. I take careful notes during the class and rearrange them after the class.

1                      2                      3                      4                      5

7. I am discouraged by a poor mark on an English test and worry about my mark in the next test.

1                      2                      3                      4                      5

8. I like English because I think it is a language worth of studying.

1                      2                      3                      4                      5

9. I have a strong desire to excel in all the courses in English.

1                      2                      3                      4                      5

10. I learn English by rote, going over and over it until I know it by heart.

1                      2                      3                      4                      5

11. When I am studying English, I think of whether what I am learning now would be useful in future.

1                      2                      3                      4                      5

12. I consistently review what I have learned throughout the semester, and review it regularly when the examinations are close.

1                      2                      3                      4                      5

13. Even if I have studied hard for a test, I still worry that I may not be able to pass it.

1                      2                      3                      4                      5

14. I find studying problems related to English can be as exciting as a good novel or a good film.

1                      2                      3                      4                      5

15. I would see myself as a person who wants to get to the top, whatever he/she does.

1                      2                      3                      4                      5

16. When I am studying English, I try to memorise the grammatical rules, vocabulary, and patterns rather than find out how they are related.

1                      2                      3                      4                      5

17. When I am studying English, I try not to learn the knowledge in an isolated manner. Rather, I study it in a comprehensive way to form my own structure of knowledge.

1                      2                      3                      4                      5

18. I try to do all my assignments as soon as possible after they are given out.

1                      2                      3                      4                      5

19. I think it is unnecessary to review what would not be tested in the examinations.

1                      2                      3                      4                      5

20. I become increasingly absorbed in English the more I study it.

1                      2                      3                      4                      5

21. If there is a conflict between the taking responsibility for the class activities and the success in my studies, I would rather give up the former.

1                      2                      3                      4                      5

22. I restrict my study of English to those materials assigned by the teachers because I think it is unnecessary to do anything extra.

1                      2                      3                      4                      5

23. I find English most interesting and spend extra time to learn and practise it.

1                      2                      3                      4                      5

24. After the English class I reread my notes to make sure that I understand what the teacher said in the class.

1                      2                      3                      4                      5

25. I am satisfied if I can just pass the examination, as it is unnecessary to spend extra time on English.

1                      2                      3                      4                      5

26. I think my purpose of learning English is to achieve the mastery of the language, and not just get good marks in the examinations.

1                      2                      3                      4                      5

27. I chose to major in English because I felt that I would get top marks in it.

1                      2                      3                      4                      5

28. I learn English best from teachers who work from carefully prepared notes and outline major points on the blackboard.

1                      2                      3                      4                      5

29. I spend extra time finding out more about the topics on English which have been discussed in classes.

1                      2                      3                      4                      5

30. I test myself on all important topics about English until I understand them completely.

1                      2                      3                      4                      5

31. I think it is enough to just finish what teachers' assignments, as it is unnecessary to do extra out-of-class practice.

1                      2                      3                      4                      5

32. Studying English broadens my knowledge and changes my attitude toward life.

1                      2                      3                      4                      5

33. I see getting high marks in English as a kind of competitive game, and I play it to win.

1                      2                      3                      4                      5

34. I accept without reservation what my teachers say in classes and question them only under special circumstances.

1                      2                      3                      4                      5

35. I try to relate what I have learned in classes to what I have acquired outside the classroom.

1                      2                      3                      4                      5

36. I follow the learning strategies and read the materials recommended by my teachers.

1                      2                      3                      4                      5

37. I think it is not necessary to correct the mistakes in my English homework if I can finish it.

1                      2                      3                      4                      5

38. I believe the mastery of English helps to discover my own philosophy and belief system.

1                      2                      3                      4                      5

39. I believe that a class should have a competitive atmosphere in English learning.

1                      2                      3                      4                      5

40. I never rely on my own judgment when I am studying English, because I think my teachers are more knowledgeable than I am in English and what they say are all correct.

1                      2                      3                      4                      5

41. I often read in English outside the classroom to broaden my knowledge of the language.

1                      2                      3                      4                      5

42. I keep neat, well-organised notes for English courses.

1                      2                      3                      4                      5

**Specification of the Items under Each of the Six Sub-scales of Motives and Strategies**

Surface Motive (SM): 1, 7, 13, 19, 25, 31, 37

Surface Strategy (SS): 4, 10, 16, 22, 28, 34, 40

Deep Motive (DM): 2, 8, 14, 20, 26, 32, 38

Deep Strategy (DS): 5, 11, 17, 23, 29, 35, 41

Achieving Motive (AM): 3, 9, 15, 21, 27, 33, 39

Achieving Strategy (AS): 6, 12, 18, 24, 30, 36, 42.

**The Order in Which the Items Were Presented in the Second Administration of the Questionnaire**

42, 39, 41, 38, 40, 37, 36, 33, 35, 32, 28, 25, 30, 27, 29, 26, 22, 19, 18, 15, 23, 20, 16, 13, 12, 9, 11, 8, 10, 7, 6, 3, 5, 2, 4, 1.

**The Order in Which the Items Were Presented in the Third Administration of the Questionnaire**

2, 5, 3, 6, 1, 4, 8, 11, 9, 12, 7, 10, 14, 17, 15, 18, 13, 16, 20, 23, 21, 24, 19, 22, 26, 29, 27, 30, 25, 28, 32, 35, 33, 36, 31, 34, 38, 41, 39, 42, 37, 40.

## Appendix 8

### Metalinguistic Judgment Test (Text)

#### *Passage One.*

(1) I tell something about my best girl friends (D-N). (2) Since we separate (T) at the railway station, we walk (T) on our each way. (3) What we can related is to written to each other. (4) And from his (P) letter, I was glad that I have such (A) perseverant friend. (5) And just like me, she is not good at comprehension hearing. (6) But his (P) classmates are all come from big city, especially from Wuhan, and other Beijing. (7) And so he (P) had to work hard. (8) But beyond his (P) study, he is (P) not lonely. (9) He do (P & S-V) something more and public works. (10) He (P) was a (A) monitor of his (P) class. (11) And he (P) was proud to tell me that he (P) got the seconds during the long running. (12) Among all his (P) schoolmates he (P) also be chosen into the team of their school of table tennis team. (13) Since Beijing is our capital and is an old place, (14) and there are several wonder (D-N) there. (15) And he tell (P & T) me that now it is snowing in Beijing, (16) and he (P) wanted to go to the Great Wall tomorrow. (This narrative was produced by S11)

#### *Passage Two*

(17) Last Sunday, we went out for a picnic. (18) The goal was Agricultural Institute. (19) That day, it was cloudy, (20) but we all are (T) happy. (21) Since we have not borrow (T) many bicycles, so we can't (T) go by bike. (22) So we divide (T) us into two groups. (23) One went there by bike, and the other went there by bus, and meet (T) at the gate of Agricultural Institute. (24) Soon after we reach (T) there, we went to the beach, and set up two frying pan (D-N) on the beach. (25) All of us have (T) something to do at that time, (26) and all of them (P) work (T) hard too. (27) The girls wash (T) the vegetables and pork, (28) and the boy (D-N) collect (T) fuel and get (T) water. (29) And then we eat (T) our lunch on the beach, and play (T) cards, take (T) photos, and do (T) some other interesting thing (D-N). (30) We all was (S-V) very happy, though we were all worn out. (This narrative was produced by S4)

(Note: The underlined parts are the errors selected for test. The symbols in the brackets behind the underlined parts represent the types of errors. The meanings of the symbols are: T = tense error, P = pronoun error, D-N = determiner-noun number agreement error, S-V = subject-verb number agreement error, A = article error)



Answer Sheet for Metalinguistic Judgment Test (an example)

| Correct/<br>Incorrect |   |  | Error |   |  | Correction |   |  | Rule |
|-----------------------|---|--|-------|---|--|------------|---|--|------|
| C                     | U |  | C     | U |  | C          | U |  |      |
| 1                     |   |  |       |   |  |            |   |  |      |
| 2                     |   |  |       |   |  |            |   |  |      |
| 3                     |   |  |       |   |  |            |   |  |      |
| 4                     |   |  |       |   |  |            |   |  |      |
| 5                     |   |  |       |   |  |            |   |  |      |
| 6                     |   |  |       |   |  |            |   |  |      |
| 7                     |   |  |       |   |  |            |   |  |      |
| 8                     |   |  |       |   |  |            |   |  |      |
| 9                     |   |  |       |   |  |            |   |  |      |
| 10                    |   |  |       |   |  |            |   |  |      |
| 11                    |   |  |       |   |  |            |   |  |      |
| 12                    |   |  |       |   |  |            |   |  |      |
| 13                    |   |  |       |   |  |            |   |  |      |
| 14                    |   |  |       |   |  |            |   |  |      |
| 15                    |   |  |       |   |  |            |   |  |      |
| 16                    |   |  |       |   |  |            |   |  |      |
| 17                    |   |  |       |   |  |            |   |  |      |
| 18                    |   |  |       |   |  |            |   |  |      |
| 19                    |   |  |       |   |  |            |   |  |      |
| 20                    |   |  |       |   |  |            |   |  |      |
| etc.                  |   |  |       |   |  |            |   |  |      |

Legend: 1.2.3...etc. = Units 1, 2, 3 ...etc. The answer sheet consisted of 30 rows, one for each unit.  
Here is only an example showing what the answer sheet looks like.  
Correct/Incorrect = discrimination between the correct and incorrect features in each unit  
C (after Correct/Incorrect) = certain about the discrimination between the correct and incorrect features  
U (after Correct/Incorrect) = uncertain about the discrimination between the correct and incorrect features  
C (after Error) = certain about the location of the erroneous features  
U (after Error) = uncertain about the location of the erroneous features  
C (after Correction) = certain about the correction of the erroneous features  
U (after Uncorrection) = uncertain about the correction of the erroneous features  
Rule = Statement of the rules broken by the erroneous items

**Appendix 9**  
**A Summary of Scores Each Subject Obtained for Six Sub-Types of Out-of-class**  
**Contact at Three Administrations of LCPQ**

(The first administration)

| Subject | RA(1) | MW(1) | TL(1) | LR(1) | TMR(1) | AG(1) |
|---------|-------|-------|-------|-------|--------|-------|
| S1      | 0.50  | 0.25  | 0.25  | 1.00  | 0.75   | 0.50  |
| S2      | 0.25  | 0.50  | 0.75  | 1.00  | 1.25   | 0.50  |
| S3      | 0.25  | 0.50  | 0.25  | 0.50  | 0.50   | 1.00  |
| S4      | 0.50  | 0.75  | 0.25  | 0.50  | 1.50   | 0.50  |
| S5      | 0.25  | 0.25  | 0.25  | 0.25  | 0.25   | 0.25  |
| S6      | 0.50  | 0.25  | 0.50  | 0.25  | 1.00   | 0.25  |
| S7      | 0.50  | 0.25  | 0.25  | 0.25  | 0.50   | 0.25  |
| S8      | 0.50  | 0.50  | 0.25  | 0.25  | 0.75   | 0.25  |
| S9      | 0.75  | 0.50  | 1.50  | 0.75  | 1.00   | 1.75  |
| S10     | 0.50  | 0.25  | 0.50  | 0.50  | 1.00   | 0.75  |
| S11     | 0.50  | 0     | 0.75  | 0.75  | 1.50   | 0.25  |
| S12     | 0.75  | 0.25  | 0.25  | 0.50  | 1.25   | 0.50  |
| S13     | 0.50  | 0.25  | 0.25  | 0.25  | 0.50   | 0.50  |
| S14     | 0.25  | 0.25  | 0.50  | 0.50  | 0.50   | 0.25  |
| S15     | 0.50  | 0.75  | 0.25  | 0.50  | 1.50   | 0.50  |
| S16     | 0.25  | 0.50  | 0.50  | 0.25  | 0.25   | 0.25  |
| S17     | 0.25  | 0.25  | 1.00  | 1.25  | 1.00   | 0.25  |
| S18     | 0.50  | 0.75  | 1.25  | 1.25  | 2.00   | 0.50  |
| S19     | 0.25  | 0.25  | 0.25  | 0.50  | 0.25   | 0.25  |
| S20     | 0.25  | 0.50  | 0.25  | 0.75  | 1.50   | 0.75  |

Legend: RA(1) = reading aloud at the first semester

MW(1) = memorising vocabulary at the first semester

TL(1) = tape listening at the first semester

LR(1) = leisure reading at the first semester

TMR(1) = reading materials assigned by teachers at the first semester

AG(1) = doing teachers' assignment at the first semester

**(The second administration)**

| Subject | RA(2) | MW(2) | TL(2) | LR(2) | TMR(2) | AG(2) |
|---------|-------|-------|-------|-------|--------|-------|
| S1      | 0.25  | 0.25  | 0.25  | 1.00  | 0.50   | 0.50  |
| S2      | 0.25  | 0.50  | 0.50  | 1.00  | 0.25   | 0.25  |
| S3      | 0.25  | 0.50  | 0     | 0.50  | 0.50   | 0.25  |
| S4      | 0.25  | 0.25  | 0.25  | 0.25  | 0.50   | 0.25  |
| S5      | 0.25  | 0.25  | 0.25  | 0.25  | 0.50   | 0.25  |
| S6      | 0.50  | 0.75  | 0.75  | 0.50  | 1.50   | 0.50  |
| S7      | 0.25  | 0.25  | 0.25  | 0.25  | 0      | 0.25  |
| S8      | 0.25  | 0.50  | 0.25  | 0.25  | 0.50   | 0.75  |
| S9      | 0.50  | 0.25  | 0.75  | 0.50  | 0.25   | 0.25  |
| S10     | 0.50  | 1.50  | 0.75  | 0.25  | 2.00   | 0.50  |
| S11     | 0.25  | 0.50  | 0.25  | 1.25  | 0.50   | 0.25  |
| S12     | 0.75  | 0.50  | 0.50  | 1.00  | 1.25   | 0.75  |
| S13     | 0.25  | 1.00  | 0.25  | 0.50  | 0.75   | 0.50  |
| S14     | 0.25  | 0.25  | 0.25  | 0.50  | 0.50   | 0.25  |
| S15     | 0.25  | 0.50  | 0.75  | 0.25  | 1.00   | 0.75  |
| S16     | 0.50  | 0.25  | 0.25  | 0.25  | 0.50   | 0.75  |
| S17     | 0.25  | 0.25  | 0.25  | 0.50  | 2.50   | 0.50  |
| S18     | 0.75  | 1.75  | 0.25  | 1.25  | 1.00   | 0.75  |
| S19     | 0.25  | 0.25  | 0.50  | 0.25  | 0.50   | 0.25  |
| S20     | 0.50  | 0.50  | 1.50  | 1.25  | 4.00   | 1.75  |

Legend: RA(2) = reading aloud at the second semester

MW(2) = memorising vocabulary at the second semester

TL(2) = tape listening at the second semester

LR(2) = leisure reading at the second semester

TMR(2) = reading materials assigned by teachers at the second semester

AG(2) = doing teachers' assignment at the second semester

**(The third administration)**

| Subject | RA(3) | MW(3) | TL(3) | LR(3) | TMR(3) | AG(3) |
|---------|-------|-------|-------|-------|--------|-------|
| S1      | 0.25  | 0.25  | 0.25  | 0.50  | 0.50   | 0.25  |
| S2      | 0.25  | 0.75  | 0.50  | 1.25  | 0.50   | 0.25  |
| S3      | 0.25  | 0.25  | 0.25  | 0.25  | 0.75   | 0.50  |
| S4      | 0.25  | 0.75  | 0.25  | 0.50  | 1.25   | 0.25  |
| S5      | 0.25  | 0.25  | 0.50  | 0.25  | 0.50   | 0.25  |
| S6      | 0.75  | 1.00  | 0.50  | 0.75  | 1.50   | 0.50  |
| S7      | 0.25  | 0.25  | 0.25  | 0.25  | 0.25   | 0.75  |
| S8      | 0.25  | 0.50  | 0.25  | 0.25  | 1.00   | 1.00  |
| S9      | 0.25  | 0.25  | 0.50  | 0.25  | 0.50   | 0.75  |
| S10     | 0.25  | 1.00  | 0.25  | 0.25  | 0.25   | 1.00  |
| S11     | 0.25  | 0.25  | 0.25  | 0.25  | 1.50   | 0.25  |
| S12     | 0.50  | 0.75  | 0.75  | 1.00  | 2.50   | 0.75  |
| S13     | 0.25  | 0.25  | 0.25  | 0.25  | 1.50   | 1.00  |
| S14     | 0.25  | 0.25  | 0.50  | 0.50  | 1.00   | 0.25  |
| S15     | 0.25  | 0.50  | 0.25  | 0.25  | 1.50   | 0.75  |
| S16     | 0.50  | 0.25  | 0.25  | 0.25  | 1.50   | 0.25  |
| S17     | 0.50  | 0.50  | 0.75  | 0.25  | 2.50   | 0.75  |
| S18     | 0.50  | 1.00  | 0.50  | 0.25  | 1.25   | 2.25  |
| S19     | 0.25  | 0.25  | 0.25  | 0.25  | 0.50   | 0.25  |
| S20     | 0.50  | 0.50  | 1.00  | 2.25  | 2.00   | 2.50  |

Legend: RA(3) = reading aloud at the third semester

MW(3) = memorising vocabulary at the third semester

TL(3) = tape listening at the third semester

LR(3) = leisure reading at the third semester

TMR(3) = reading materials assigned by teachers at the third semester

AG(3) = doing teachers' assignment at the third semester

**Appendix 10**

**Analysis of Variance (One factor, Repeated Measure) for Amounts of Time  
Subjects Reported to Have Spent on Six Sub-types of Out-of-class Contact with  
English in Three LCPQ Administrations**

**Reading Aloud**

| Analysis of Variance (One factor, Repeated Measure) for Amounts of Time<br>Subjects Reported to Have Spent on Reading Aloud in Three LCPQ<br>Administrations |                  |                       |                      |      |        |
|--|------------------|-----------------------|----------------------|------|--------|
| Source of<br>variance  | Sum of<br>square | Sum of<br>mean square | Degree of<br>freedom | F    | Prob.  |
| Time   | 0.10             | 0.05                  | 2                    | 2.99 | 0.06   |
| Subject  | 0.84             | 0.05                  | 18                   | 2.80 | 0.0042 |
| T x S (error)  | 0.61             | 0.02                  | 36                   | -    | -      |

**Memorising Words**

| Analysis of Variance (One factor, Repeated Measure) for Amounts of Time<br>Subjects Reported to Have Spent on Memorising Words in Three LCPQ<br>Administrations |                  |                       |                      |      |        |
|---|------------------|-----------------------|----------------------|------|--------|
| Source of<br>variance   | Sum of<br>square | Sum of<br>mean square | Degree of<br>freedom | F    | Prob.  |
| Time  | 0.19             | 0.09                  | 2                    | 1.71 | 0.19   |
| Subject   | 2.69             | 0.15                  | 18                   | 2.70 | 0.0055 |
| T x S (error)   | 1.99             | 0.06                  | 36                   | 1.33 | 0.47   |

**Tape Listening**

| Analysis of Variance (One factor, Repeated Measure) for Amounts of Time<br>Subjects Reported to Have Spent on Taping Listening in Three LCPQ<br>Administrations |                  |                       |                      |      |       |
|---|------------------|-----------------------|----------------------|------|-------|
| Source of<br>variance   | Sum of<br>square | Sum of<br>mean square | Degree of<br>freedom | F    | Prob. |
| Time  | 0.07             | 0.04                  | 2                    | 0.44 | 0.65  |
| Subject   | 2.42             | 0.13                  | 18                   | 1.65 | 0.099 |
| T x S (error)   | 2.94             | 0.08                  | 36                   | 0.87 | 0.66  |

**TM Reading**

| Analysis of Variance (One factor, Repeated Measure) for Amounts of Time<br>Subjects Reported to Have Spent on Reading Teacher-Assigned Materials in Three<br>LCPQ Administrations |                  |                       |                      |      |        |
|---|------------------|-----------------------|----------------------|------|--------|
| Source of<br>variance   | Sum of<br>square | Sum of<br>mean square | Degree of<br>freedom | F    | Prob.  |
| Time  | 0.31             | 0.16                  | 2                    | 0.51 | 0.60   |
| Subject   | 19.57            | 1.09                  | 18                   | 3.54 | 0.0006 |
| T x S (error)   | 11.06            | 0.31                  | 36                   | 2.68 | 0.23   |

**Leisure Reading**

| Analysis of Variance (One factor, Repeated Measure) for Amounts of Time<br>Subjects Reported to Have Spent on Leisure Reading in Three LCPQ<br>Administrations |                  |                       |                      |      |       |
|--|------------------|-----------------------|----------------------|------|-------|
| Source of<br>variance  | Sum of<br>square | Sum of<br>mean square | Degree of<br>freedom | F    | Prob. |
| Time   | 0.14             | 0.07                  | 2                    | 0.58 | 0.57  |
| Subject  | 5.47             | 0.30                  | 18                   | 2.63 | 0.067 |
| T x S (error)  | 4.16             | 0.12                  | 36                   | 0.46 | 0.89  |

**Assignment**

| Analysis of Variance (One factor, Repeated Measure) for Amounts of Time<br>Subjects Reported to Have Spent on Doing Teachers' Written Assignments in<br>Three LCPQ Administrations |                  |                       |                      |      |         |
|--|------------------|-----------------------|----------------------|------|---------|
| Source of<br>variance  | Sum of<br>square | Sum of<br>mean square | Degree of<br>freedom | F    | Prob.   |
| Time   | 0.74             | 0.37                  | 2                    | 2.53 | 0.09    |
| Subject  | 7.01             | 0.39                  | 18                   | 2.61 | 0.00071 |
| T x S (error)  | 5.38             | 0.15                  | 36                   | 2.87 | 0.21    |

**Appendix 11**  
**A Summary of Subjects' Indications of Preference for Listening, Speaking and**  
**Reading English or Chinese at Three LCPQ Administrations**

**(The first administration)**

| Subject | Listening | Speaking | Reading |
|---------|-----------|----------|---------|
| S1      | 0         | 1        | 0       |
| S2      | 0         | 1        | 2       |
| S3      | 0         | 0        | 1       |
| S4      | 1         | 2        | 1       |
| S5      | 2         | 1        | 1       |
| S6      | 1         | 2        | 1       |
| S7      | 1         | 1        | 1       |
| S8      | 0         | 0        | 0       |
| S9      | 2         | 0        | 0       |
| S10     | 1         | 1        | 2       |
| S11     | 2         | 2        | 2       |
| S12     | 1         | 1        | 1       |
| S13     | 1         | 2        | 2       |
| S14     | 2         | 2        | 1       |
| S15     | 1         | 1        | 1       |
| S16     | 0         | 2        | 2       |
| S17     | 2         | 1        | 2       |
| S18     | 2         | 0        | 2       |
| S19     | 2         | 0        | 2       |
| S20     | 0         | 2        | 2       |

Legend: 0 = no preference  
1 = preference for Chinese  
2 = preference for English

**(The second administration)**

| Subject | Listening | Speaking | Reading |
|---------|-----------|----------|---------|
| S1      | 0         | 0        | 0       |
| S2      | 2         | 0        | 2       |
| S3      | 0         | 0        | 0       |
| S4      | 2         | 2        | 0       |
| S5      | 1         | 1        | 2       |
| S6      | 2         | 2        | 2       |
| S7      | 1         | 1        | 1       |
| S8      | 0         | 0        | 0       |
| S9      | 2         | 0        | 0       |
| S10     | 1         | 1        | 1       |
| S11     | 1         | 2        | 1       |
| S12     | 1         | 1        | 1       |
| S13     | 0         | 2        | 1       |
| S14     | 2         | 2        | 1       |
| S15     | 2         | 2        | 1       |
| S16     | 0         | 1        | 2       |
| S17     | 2         | 2        | 2       |
| S18     | 1         | 0        | 2       |
| S19     | 2         | 0        | 1       |
| S20     | 2         | 2        | 2       |

Legend: 0 = no preference  
1 = preference for Chinese  
2 = preference for English



**(The third administration)**

| Subject | Listening | Speaking | Reading |
|---------|-----------|----------|---------|
| S1      | 1         | 1        | 1       |
| S2      | 2         | 2        | 2       |
| S3      | 1         | 0        | 1       |
| S4      | 2         | 1        | 1       |
| S5      | 2         | 2        | 1       |
| S6      | 2         | 2        | 2       |
| S7      | 2         | 1        | 1       |
| S8      | 1         | 0        | 1       |
| S9      | 2         | 2        | 0       |
| S10     | 2         | 1        | 2       |
| S11     | 2         | 2        | 2       |
| S12     | 0         | 1        | 2       |
| S13     | 1         | 0        | 1       |
| S14     | 2         | 2        | 1       |
| S15     | 1         | 2        | 0       |
| S16     | 2         | 1        | 1       |
| S17     | 2         | 2        | 2       |
| S18     | 2         | 0        | 2       |
| S19     | 2         | 2        | 0       |
| S20     | 2         | 1        | 2       |

Legend: 0 = no preference  
1 = preference for Chinese  
2 = preference for English

**Appendix 12**  
**A Summary of Raw Scores Subjects Obtained for Non-oral English Activities in**  
**Which They Participated during Three Semesters of English Learning at the**  
**University**

| Subject | Semester 1 | Semester 2 | Semester 3 |
|---------|------------|------------|------------|
| S1      | 5          | 0          | 2          |
| S2      | 2          | 2          | 3          |
| S3      | 0          | 0          | 2          |
| S4      | 0          | 0          | 0          |
| S5      | 4          | 1          | 2          |
| S6      | 3          | 2          | 2          |
| S7      | 2          | 1          | 3          |
| S8      | 2          | 0          | 0          |
| S9      | 5          | 0          | 0          |
| S10     | 1          | 0          | 0          |
| S11     | 3          | 0          | 1          |
| S12     | 5          | 0          | 1          |
| S13     | 3          | 0          | 2          |
| S14     | 3          | 2          | 1          |
| S15     | 4          | 2          | 2          |
| S16     | 6          | 0          | 1          |
| S17     | 2          | 3          | 4          |
| S18     | 2          | 2          | 2          |
| S19     | 4          | 3          | 3          |
| S20     | 3          | 2          | 3          |

**Appendix 13**  
**A Summary of Subjects' Indications of Participation in Out-of-class Oral**  
**English Activity at Three LCPQ Administrations**

| Subject | 1st Test | 2nd Test | 3rd Test |
|---------|----------|----------|----------|
| S1      | 1        | 0        | 0        |
| S2      | 0        | 0        | 0        |
| S3      | 0        | 0        | 0        |
| S4      | 0        | 0        | 0        |
| S5      | 1        | 0        | 1        |
| S6      | 1        | 1        | 0        |
| S7      | 1        | 1        | 1        |
| S8      | 1        | 0        | 0        |
| S9      | 1        | 0        | 0        |
| S10     | 1        | 0        | 0        |
| S11     | 0        | 0        | 0        |
| S12     | 1        | 0        | 1        |
| S13     | 0        | 0        | 0        |
| S14     | 1        | 1        | 0        |
| S15     | 1        | 1        | 1        |
| S16     | 0        | 0        | 0        |
| S17     | 1        | 0        | 0        |
| S18     | 0        | 1        | 0        |
| S19     | 1        | 0        | 0        |
| S20     | 1        | 0        | 0        |

Legend: 0 = no participation  
1 = participation

# Appendix 14

**A Summary of the Scores Which Subjects Obtained for Two Attitudinal Aspects, and Overall Attitude in Relation to English Learning in the Testing Session Prior to Their English Learning at the University and in the Three Testing Sessions after Their English Learning at the University**

| <i>The Scores Obtained in the Testing Session Prior to English Learning at the University</i> |            |            |           |
|---|------------|------------|-----------|
| <i>Subject</i>  | <i>AEP</i> | <i>IEL</i> | <i>OA</i> |
| S1  | 23         | 21         | 44        |
| S2  | 17         | 25         | 42        |
| S3  | 16         | 17         | 33        |
| S4  | 20         | 23         | 43        |
| S5  | 15         | 23         | 38        |
| S6  | 15         | 20         | 35        |
| S7  | 19         | 22         | 41        |
| S8  | 19         | 23         | 42        |
| S9  | 20         | 25         | 45        |
| S10   | 21         | 24         | 45        |
| S11   | 23         | 19         | 42        |
| S12   | 17         | 20         | 37        |
| S13   | 17         | 24         | 41        |
| S14   | 18         | 23         | 41        |
| S15   | 20         | 21         | 41        |
| S16   | 19         | 20         | 39        |
| S17   | 18         | 25         | 43        |
| S18   | 15         | 23         | 38        |
| S19   | 22         | 24         | 46        |
| S20   | 20         | 22         | 42        |

*Legend:* AEP = attitude towards English-speaking people  
 IEL = interest in English learning  
 OA = overall attitude in relation to English learning

| <i>The Scores Obtained in the First Testing Session after English Learning at the University</i> |            |            |           |
|--|------------|------------|-----------|
| <i>Subject</i>   | <i>AEP</i> | <i>IEL</i> | <i>OA</i> |
| S1   | 24         | 21         | 45        |
| S2   | 14         | 22         | 36        |
| S3   | 20         | 18         | 38        |
| S4   | 19         | 22         | 41        |
| S5   | 21         | 20         | 41        |
| S6   | 20         | 21         | 41        |
| S7   | 20         | 20         | 40        |
| S8   | 21         | 23         | 44        |
| S9   | 14         | 24         | 38        |
| S10  | 19         | 25         | 44        |
| S11  | 23         | 21         | 44        |
| S12  | 17         | 22         | 39        |
| S13  | 16         | 24         | 40        |
| S14  | 20         | 22         | 42        |
| S15  | 14         | 19         | 33        |
| S16  | 15         | 21         | 36        |
| S17  | 15         | 18         | 33        |
| S18  | 15         | 22         | 37        |
| S19  | 19         | 22         | 41        |
| S20  | 17         | 18         | 35        |
| Mean   | 18.15      | 21.25      | 39.4      |
| SD   | 3.07       | 1.99       | 3.6       |

Legend: AEP = attitude towards English-speaking people  
 IEL = interest in English learning  
 OA = overall attitude in relation to English learning  
 SD = standard deviation

| <i>The Scores Obtained in the Second Testing Session after English Learning at the University</i> |            |            |           |
|---|------------|------------|-----------|
| <i>Subject</i>  | <i>AEP</i> | <i>IEL</i> | <i>OA</i> |
| S1  | 22         | 21         | 43        |
| S2  | 20         | 24         | 44        |
| S3  | 18         | 17         | 35        |
| S4  | 19         | 20         | 39        |
| S5  | 20         | 19         | 39        |
| S6  | 18         | 19         | 37        |
| S7  | 19         | 22         | 41        |
| S8  | 21         | 20         | 41        |
| S9  | 14         | 20         | 34        |
| S10   | 16         | 24         | 40        |
| S11   | 23         | 23         | 46        |
| S12   | 18         | 22         | 40        |
| S13   | 18         | 24         | 42        |
| S14   | 22         | 23         | 45        |
| S15   | 17         | 23         | 40        |
| S16   | 18         | 21         | 39        |
| S17   | 16         | 21         | 37        |
| S18   | 17         | 24         | 41        |
| S19   | 17         | 20         | 37        |
| S20   | 18         | 20         | 38        |
| Mean  | 18.55      | 21.35      | 39.9      |
| SD  | 2.25       | 2          | 3.14      |

Legend: AEP = attitude towards English-speaking people  
 IEL = Interest in English learning  
 OA = overall attitude in relation to English learning  
 SD = standard deviation

| <i>The Scores Obtained in the Third Testing Session after English Learning at the University</i> |            |            |           |
|--|------------|------------|-----------|
| <i>Subject</i>   | <i>AEP</i> | <i>IEL</i> | <i>OA</i> |
| S1   | 21         | 20         | 41        |
| S2   | 20         | 25         | 45        |
| S3   | 20         | 16         | 36        |
| S4   | 19         | 22         | 41        |
| S5   | 22         | 20         | 42        |
| S6   | 20         | 21         | 41        |
| S7   | 18         | 19         | 37        |
| S8   | 22         | 20         | 42        |
| S9   | 23         | 24         | 47        |
| S10  | 18         | 25         | 43        |
| S11  | 24         | 23         | 47        |
| S12  | 19         | 20         | 39        |
| S13  | 19         | 24         | 43        |
| S14  | 23         | 22         | 45        |
| S15  | 18         | 20         | 38        |
| S16  | 18         | 23         | 41        |
| S17  | 20         | 25         | 45        |
| S18  | 16         | 23         | 39        |
| S19  | 17         | 19         | 36        |
| S20  | 20         | 23         | 43        |
| Mean   | 19.85      | 21.7       | 41.55     |
| SD   | 2.13       | 2.43       | 3.33      |

Legend: AEP = attitude towards English-speaking people  
 IEL = Interest in English learning  
 OA = overall attitude in relation to English learning  
 SD = standard deviation

## Appendix 15

### Analysis of Variance (One factor, Repeated Measure) for Subjects' Indications of Two Attitudinal Aspects and Overall Attitude in Relation to English Learning in One Pre-University English Learning Testing Session and Three Post-University English Learning Testing Sessions

#### *Attitude toward English-speaking people*

| Source of variance | Sum of square | Sum of mean square | Degree of freedom | F    | Prob.  |
|--------------------|---------------|--------------------|-------------------|------|--------|
| Time               | 31.94         | 10.65              | 3                 | 2.66 | 0.056  |
| Subject            | 252.44        | 13.29              | 19                | 3.32 | 0.0002 |
| T x S (error)      | 227.81        | 3.99               | 57                | -    | -      |

#### *Interest in learning English*

| Source of variance | Sum of square | Sum of mean square | Degree of freedom | F    | Prob. |
|--------------------|---------------|--------------------|-------------------|------|-------|
| Time               | 11.05         | 3.68               | 3                 | 1.48 | 0.23  |
| Subject            | 214.25        | 11.28              | 19                | 4.54 | 0     |
| T x S (error)      | 141.45        | 2.48               | 57                | -    | -     |

#### *Overall Attitude in relation to English learning*

| Source of variance | Sum of square | Sum of mean square | Degree of freedom | F    | Prob.  |
|--------------------|---------------|--------------------|-------------------|------|--------|
| Time               | 56.34         | 18.78              | 3                 | 2.19 | 0.09   |
| Subject            | 371.94        | 19.58              | 19                | 2.28 | 0.0087 |
| T x S (error)      | 489.41        | 8.59               | 57                | -    | -      |



## Appendix 16

### A Summary of the Scores Obtained by Subjects for Three Attitudinal Aspects and Overall Attitude toward the Classroom Learning Environment in Three Testing Sessions

| <i>The Scores Obtained in the First Testing Session</i> |            |            |            |           |
|---|------------|------------|------------|-----------|
| <i>Subject</i>  | <i>ECA</i> | <i>ATM</i> | <i>ACM</i> | <i>OA</i> |
| S1  | 18         | 11         | 12         | 41        |
| S2  | 14         | 11         | 13         | 38        |
| S3  | 16         | 11         | 16         | 43        |
| S4  | 13         | 13         | 16         | 42        |
| S5  | 14         | 15         | 19         | 48        |
| S6  | 9          | 15         | 17         | 41        |
| S7  | 10         | 15         | 13         | 38        |
| S8  | 11         | 13         | 14         | 38        |
| S9  | 8          | 14         | 16         | 38        |
| S10   | 8          | 13         | 17         | 38        |
| S11   | 8          | 16         | 16         | 40        |
| S12   | 7          | 14         | 14         | 35        |
| S13   | 11         | 8          | 10         | 29        |
| S14   | 18         | 11         | 12         | 41        |
| S15   | 11         | 9          | 12         | 32        |
| S16   | 13         | 13         | 14         | 40        |
| S17   | 15         | 11         | 14         | 40        |
| S18   | 11         | 13         | 16         | 40        |
| S19   | 13         | 15         | 16         | 44        |
| S20   | 10         | 13         | 15         | 38        |

Legend: ECA = English class anxiety  
 ATM = attitude toward teaching method  
 ACM = attitude toward course materials  
 OA = overall attitude toward the classroom learning environment

| <i>The Scores Obtained in the Second Testing Session</i> |            |            |            |           |
|--|------------|------------|------------|-----------|
| <i>Subject</i>   | <i>ECA</i> | <i>ATM</i> | <i>ACM</i> | <i>OA</i> |
| S1   | 11         | 13         | 16         | 40        |
| S2   | 10         | 13         | 13         | 36        |
| S3   | 14         | 9          | 15         | 38        |
| S4   | 13         | 8          | 13         | 34        |
| S5   | 9          | 15         | 15         | 39        |
| S6   | 10         | 15         | 17         | 42        |
| S7   | 11         | 9          | 12         | 32        |
| S8   | 8          | 13         | 15         | 36        |
| S9   | 10         | 10         | 14         | 34        |
| S10  | 7          | 11         | 10         | 28        |
| S11  | 11         | 12         | 12         | 35        |
| S12  | 7          | 9          | 12         | 28        |
| S13  | 10         | 11         | 11         | 32        |
| S14  | 17         | 8          | 15         | 40        |
| S15  | 14         | 10         | 13         | 37        |
| S16  | 6          | 10         | 9          | 25        |
| S17  | 13         | 10         | 12         | 35        |
| S18  | 8          | 12         | 18         | 38        |
| S19  | 11         | 13         | 15         | 39        |
| S20  | 7          | 13         | 17         | 37        |
| Mean   | 10.35      | 11.2       | 13.7       | 35.25     |
| SD   | 2.83       | 2.14       | 2.4        | 4.44      |

Legend: ECA = English class anxiety

ATM = attitude toward teaching method

ACM = attitude toward course materials

OA = overall attitude toward the classroom learning environment

SD = standard deviation

| <i>The Scores Obtained in the Third Testing Session</i> |            |            |            |           |
|---|------------|------------|------------|-----------|
| <i>Subject</i>  | <i>ECA</i> | <i>ATM</i> | <i>ACM</i> | <i>OA</i> |
| S1  | 13         | 14         | 15         | 42        |
| S2  | 9          | 13         | 17         | 39        |
| S3  | 14         | 10         | 11         | 35        |
| S4  | 12         | 16         | 16         | 44        |
| S5  | 10         | 14         | 16         | 40        |
| S6  | 12         | 11         | 10         | 33        |
| S7  | 12         | 15         | 16         | 43        |
| S8  | 12         | 12         | 15         | 39        |
| S9  | 10         | 13         | 13         | 36        |
| S10   | 12         | 13         | 15         | 40        |
| S11   | 12         | 14         | 16         | 42        |
| S12   | 14         | 8          | 12         | 34        |
| S13   | 11         | 12         | 11         | 34        |
| S14   | 18         | 11         | 14         | 43        |
| S15   | 12         | 14         | 11         | 37        |
| S16   | 11         | 12         | 14         | 37        |
| S17   | 10         | 11         | 19         | 40        |
| S18   | 10         | 15         | 10         | 35        |
| S19   | 13         | 14         | 15         | 42        |
| S20   | 7          | 14         | 17         | 38        |
| Mean  | 11.7       | 12.8       | 14.15      | 38.65     |
| SD  | 2.25       | 1.93       | 2.58       | 3.4       |

Legend: ECA = English class anxiety  
ATM = attitude toward teaching method  
ACM = attitude toward course materials  
OA = overall attitude toward the classroom learning environment  
SD = standard deviation

### Appendix 17

#### Analysis of Variance (One factor, Repeated Measure) for Scores Obtained by Subjects for Three Attitudinal Aspects and Overall Attitude toward the Classroom Learning Environment in Three Testing Sessions

##### *English class anxiety*

| Source of variance | Sum of square | Sum of mean square | Degree of freedom | F    | Prob.  |
|--------------------|---------------|--------------------|-------------------|------|--------|
| Time               | 28.43         | 14.22              | 2                 | 3.37 | 0.04   |
| Subject            | 290.32        | 15.28              | 19                | 3.62 | 0.0004 |
| T x S (error)      | 160.23        | 4.21               | 38                | -    | -      |

##### *Attitude toward teaching methods*

| Source of variance | Sum of square | Sum of mean square | Degree of freedom | F    | Prob. |
|--------------------|---------------|--------------------|-------------------|------|-------|
| Time               | 32.13         | 16.07              | 2                 | 4.80 | 0.01  |
| Subject            | 117.4         | 6.18               | 19                | 1.85 | 0.05  |
| T x S (error)      | 127.2         | 3.35               | 38                | -    | -     |

##### *Attitude toward course materials*

| Source of variance | Sum of square | Sum of mean square | Degree of freedom | F    | Prob. |
|--------------------|---------------|--------------------|-------------------|------|-------|
| Time               | 8.1           | 4.05               | 2                 | 0.72 | 0.49  |
| Subject            | 113.65        | 5.98               | 19                | 1.06 | 0.42  |
| T x S (error)      | 213.9         | 6.63               | 38                | -    | -     |

##### *Overall Attitude toward the classroom learning environment*

| Source of variance | Sum of square | Sum of mean square | Degree of freedom | F    | Prob. |
|--------------------|---------------|--------------------|-------------------|------|-------|
| Time               | 183.1         | 91.55              | 2                 | 8.23 | 0.001 |
| Subject            | 490.6         | 25.82              | 19                | 2.32 | 0.013 |
| T x S (error)      | 422.9         | 11.13              | 38                | -    | -     |

## Appendix 18

### A Summary of the Scores Obtained by Subjects for Integrative Motivation and Instrumental Motivation for Learning English in One Pre-University English Learning Testing Session, and in Three Post-University English Learning Testing Sessions

| <i>The Scores Obtained in the Pre-University English Learning Testing Session</i> |             |             |
|---|-------------|-------------|
| <i>Subject</i>  | <i>INTM</i> | <i>INSM</i> |
| S1  | 22          | 17          |
| S2  | 16          | 20          |
| S3  | 17          | 17          |
| S4  | 20          | 15          |
| S5  | 18          | 18          |
| S6  | 20          | 18          |
| S7  | 20          | 18          |
| S8  | 17          | 23          |
| S9  | 23          | 19          |
| S10   | 22          | 22          |
| S11   | 18          | 23          |
| S12   | 20          | 15          |
| S13   | 17          | 21          |
| S14   | 14          | 19          |
| S15   | 13          | 18          |
| S16   | 17          | 18          |
| S17   | 18          | 17          |
| S18   | 15          | 14          |
| S19   | 22          | 17          |
| S20   | 20          | 22          |

Legend: INTM = integrative motivation for learning English  
 INSM = instrumental motivation for learning English

| <i>The Scores Obtained in the First Post-University English Learning Testing Session</i> |             |             |
|--|-------------|-------------|
| <i>Subject</i>   | <i>INTM</i> | <i>INSM</i> |
| S1   | 23          | 19          |
| S2   | 17          | 15          |
| S3   | 18          | 19          |
| S4   | 21          | 18          |
| S5   | 20          | 19          |
| S6   | 20          | 18          |
| S7   | 23          | 20          |
| S8   | 17          | 22          |
| S9   | 21          | 19          |
| S10  | 20          | 20          |
| S11  | 23          | 20          |
| S12  | 16          | 17          |
| S13  | 15          | 18          |
| S14  | 17          | 19          |
| S15  | 14          | 19          |
| S16  | 19          | 15          |
| S17  | 15          | 16          |
| S18  | 13          | 10          |
| S19  | 18          | 19          |
| S20  | 19          | 19          |
| Mean   | 18.45       | 18.05       |
| SD   | 2.98        | 2.54        |

Legend: INTM = integrative motivation for learning English  
 INSM = instrumental motivation for learning English  
 SD = standard deviation

| <i>The Scores Obtained in the Second Post-University English Learning Testing Session</i> |             |             |
|---|-------------|-------------|
| <i>Subject</i>  | <i>INTM</i> | <i>INSM</i> |
| S1  | 23          | 19          |
| S2  | 17          | 18          |
| S3  | 15          | 16          |
| S4  | 19          | 16          |
| S5  | 16          | 17          |
| S6  | 19          | 16          |
| S7  | 21          | 19          |
| S8  | 15          | 25          |
| S9  | 15          | 21          |
| S10   | 17          | 19          |
| S11   | 22          | 20          |
| S12   | 16          | 19          |
| S13   | 16          | 19          |
| S14   | 20          | 21          |
| S15   | 17          | 19          |
| S16   | 18          | 15          |
| S17   | 15          | 17          |
| S18   | 17          | 17          |
| S19   | 14          | 18          |
| S20   | 19          | 22          |
| Mean  | 17.55       | 18.65       |
| SD  | 2.52        | 2.39        |

Legend: INTM = integrative motivation for learning English  
 INSM = instrumental motivation for learning English  
 SD = standard deviation

| <i>The Scores Obtained in the Third Post-University English Learning Testing Session</i> |             |             |
|--|-------------|-------------|
| <i>Subject</i>   | <i>INTM</i> | <i>INSM</i> |
| S1   | 20          | 17          |
| S2   | 16          | 22          |
| S3   | 18          | 17          |
| S4   | 18          | 18          |
| S5   | 18          | 18          |
| S6   | 17          | 20          |
| S7   | 18          | 18          |
| S8   | 15          | 25          |
| S9   | 21          | 24          |
| S10  | 18          | 19          |
| S11  | 21          | 17          |
| S12  | 15          | 21          |
| S13  | 15          | 17          |
| S14  | 20          | 18          |
| S15  | 15          | 13          |
| S16  | 18          | 19          |
| S17  | 17          | 16          |
| S18  | 14          | 16          |
| S19  | 17          | 18          |
| S20  | 22          | 22          |
| Mean   | 17.65       | 18.75       |
| SD   | 2.27        | 2.88        |

Legend: INTM = integrative motivation for learning English  
 INSM = instrumental motivation for learning English  
 SD = standard deviation



Appendix 19

Analysis of Variance (One Factor, Repeated Measure) for the Scores Obtained  
by Subjects for Integrative Motivation and Instrumental Motivation for  
Learning English in One Pre-University English Learning Testing Session and  
Three Post-University English Learning Testing Sessions

*Integrative motivation*

| Source of variance | Sum of square | Sum of mean square | Degree of freedom | F    | Prob. |
|--------------------|---------------|--------------------|-------------------|------|-------|
| Time               | 14.55         | 4.85               | 3                 | 1.33 | 0.27  |
| Subject            | 328.95        | 17.31              | 19                | 4.78 | 0     |
| T x S (error)      | 206.45        | 3.62               | 57                | -    | -     |

*Instrumental motivation*

| Source of variance | Sum of square | Sum of mean square | Degree of freedom | F    | Prob. |
|--------------------|---------------|--------------------|-------------------|------|-------|
| Time               | 5.8           | 1.93               | 3                 | 0.53 | 0.65  |
| Subject            | 312           | 16.42              | 19                | 4.54 | 0     |
| T x S (error)      | 206           | 3.62               | 57                | -    | -     |

**Appendix 20**

**A Summary of the Scores Obtained by Subjects for Surface, Deep and Achieving Motives for Learning English in Three Testing Sessions**

| <i>The Scores Obtained in the First Testing Session</i> |    |    |    |
|---|----|----|----|
| Subject.  | SM | DM | AM |
| S1  | 11 | 30 | 19 |
| S2  | 12 | 22 | 29 |
| S3  | 13 | 19 | 21 |
| S4  | 13 | 25 | 26 |
| S5  | 11 | 29 | 22 |
| S6  | 11 | 28 | 27 |
| S7  | 13 | 27 | 20 |
| S8  | 21 | 11 | 23 |
| S9  | 17 | 25 | 30 |
| S10   | 15 | 26 | 35 |
| S11   | 15 | 35 | 32 |
| S12   | 17 | 18 | 24 |
| S13   | 12 | 22 | 21 |
| S14   | 9  | 27 | 19 |
| S15   | 19 | 17 | 19 |
| S16   | 18 | 18 | 17 |
| S17   | 12 | 20 | 31 |
| S18   | 14 | 21 | 19 |
| S19   | 15 | 11 | 13 |
| S20   | 17 | 21 | 26 |

Legend: SM = surface motive  
DM = deep motive  
AM = achieving motive

| <i>The Scores Obtained in the Second Testing Session</i> |      |       |      |
|--|------|-------|------|
| Subject.   | SM   | DM    | AM   |
| S1   | 8    | 24    | 25   |
| S2   | 14   | 26    | 21   |
| S3   | 17   | 19    | 17   |
| S4   | 12   | 19    | 18   |
| S5   | 18   | 24    | 24   |
| S6   | 16   | 21    | 20   |
| S7   | 13   | 20    | 17   |
| S8   | 27   | 23    | 26   |
| S9   | 19   | 27    | 29   |
| S10  | 18   | 21    | 35   |
| S11  | 17   | 32    | 23   |
| S12  | 15   | 20    | 20   |
| S13  | 13   | 16    | 21   |
| S14  | 16   | 27    | 25   |
| S15  | 18   | 16    | 17   |
| S16  | 19   | 22    | 18   |
| S17  | 17   | 23    | 25   |
| S18  | 20   | 19    | 20   |
| S19  | 20   | 24    | 26   |
| S20  | 13   | 18    | 23   |
| Mean   | 16.5 | 22.05 | 22.5 |
| SD   | 3.92 | 4     | 4.58 |

Legend: SM = surface motive  
DM = deep motive  
AM = achieving motive

| <i>The Scores Obtained in the Third Testing Session</i> |       |      |      |
|---|-------|------|------|
| Subject.  | SM    | DM   | AM   |
| S1  | 18    | 30   | 26   |
| S2  | 16    | 28   | 30   |
| S3  | 17    | 14   | 14   |
| S4  | 14    | 21   | 26   |
| S5  | 15    | 24   | 22   |
| S6  | 19    | 24   | 23   |
| S7  | 13    | 23   | 20   |
| S8  | 22    | 23   | 21   |
| S9  | 22    | 24   | 31   |
| S10   | 13    | 22   | 34   |
| S11   | 13    | 35   | 27   |
| S12   | 17    | 19   | 25   |
| S13   | 14    | 18   | 24   |
| S14   | 10    | 22   | 18   |
| S15   | 18    | 18   | 18   |
| S16   | 27    | 25   | 21   |
| S17   | 13    | 25   | 27   |
| S18   | 16    | 20   | 20   |
| S19   | 22    | 23   | 25   |
| S20   | 12    | 30   | 28   |
| Mean  | 16.55 | 23.4 | 24   |
| SD  | 4.22  | 4.79 | 4.89 |

Legend: SM = surface motive  
 DM = deep motive  
 AM = achieving motive

Appendix 21

Analysis of Variance (One Factor, Repeated Measure) for Scores Obtained by Subjects for Surface, Deep and Achieving Motives for Learning English in Three Testing Sessions

Surface motive

| Source of variance | Sum of square | Sum of mean square | Degree of freedom | F    | Prob.  |
|--------------------|---------------|--------------------|-------------------|------|--------|
| Time               | 69.03         | 34.52              | 2                 | 4.84 | 0.01   |
| Subject            | 546.73        | 28.78              | 19                | 4.04 | 0.0001 |
| T x S (error)      | 270.97        | 7.13               | 38                | -    | -      |

Deep motive

| Source of variance | Sum of square | Sum of mean square | Degree of freedom | F    | Prob.  |
|--------------------|---------------|--------------------|-------------------|------|--------|
| Time               | 18.43         | 9.22               | 2                 | 0.69 | 0.50   |
| Subject            | 942.98        | 49.63              | 19                | 3.72 | 0.0003 |
| T x S (error)      | .507.57       | 13.36              | 38                | -    | -      |

Achieving motive

| Source of variance | Sum of square | Sum of mean square | Degree of freedom | F    | Prob. |
|--------------------|---------------|--------------------|-------------------|------|-------|
| Time               | 24.63         | 12.31              | 2                 | 1.15 | 0.33  |
| Subject            | 1068.18       | 56.22              | 19                | 5.27 | 0     |
| T x S (error)      | .405.37       | 10.67              | 38                | -    | -     |

**Appendix 22**

**A Summary of the Scores Obtained by Subjects for Three Types of English Learning Strategy in Three Testing Sessions**

| <i>The Scores Obtained in the First Testing Session</i> |    |    |    |
|---|----|----|----|
| Subject   | SS | DS | AS |
| S1  | 9  | 29 | 26 |
| S2  | 20 | 24 | 25 |
| S3  | 12 | 26 | 16 |
| S4  | 21 | 22 | 21 |
| S5  | 12 | 26 | 19 |
| S6  | 19 | 29 | 25 |
| S7  | 14 | 14 | 20 |
| S8  | 14 | 13 | 11 |
| S9  | 14 | 31 | 26 |
| S10   | 19 | 22 | 23 |
| S11   | 13 | 31 | 29 |
| S12   | 17 | 17 | 19 |
| S13   | 10 | 22 | 25 |
| S14   | 12 | 24 | 23 |
| S15   | 16 | 24 | 25 |
| S16   | 20 | 21 | 18 |
| S17   | 20 | 25 | 23 |
| S18   | 20 | 16 | 25 |
| S19   | 7  | 14 | 17 |
| S20   | 16 | 26 | 19 |

Legend: SS = surface strategy  
DS = deep strategy  
AS = achieving strategy

| <i>The Scores Obtained in the Second Testing Session</i> |      |      |      |
|--|------|------|------|
| Subject  | SS   | DS   | AS   |
| S1   | 12   | 31   | 25   |
| S2   | 21   | 23   | 23   |
| S3   | 14   | 21   | 13   |
| S4   | 16   | 19   | 16   |
| S5   | 15   | 27   | 17   |
| S6   | 17   | 18   | 22   |
| S7   | 13   | 17   | 16   |
| S8   | 17   | 20   | 20   |
| S9   | 14   | 29   | 24   |
| S10  | 18   | 28   | 24   |
| S11  | 11   | 31   | 24   |
| S12  | 14   | 19   | 15   |
| S13  | 18   | 16   | 22   |
| S14  | 16   | 22   | 16   |
| S15  | 17   | 21   | 16   |
| S16  | 19   | 23   | 17   |
| S17  | 20   | 25   | 23   |
| S18  | 17   | 25   | 31   |
| S19  | 16   | 28   | 21   |
| S20  | 15   | 25   | 19   |
| Mean   | 16   | 23.4 | 20.2 |
| SD   | 2.57 | 4.58 | 4.45 |

Legend: SS = surface strategy  
 DS = deep strategy  
 AS = achieving strategy

| <i>The Scores Obtained in the Third Testing Session</i> |       |      |      |
|---|-------|------|------|
| Subject   | SS    | DS   | AS   |
| S1  | 15    | 29   | 26   |
| S2  | 19    | 26   | 29   |
| S3  | 16    | 19   | 10   |
| S4  | 22    | 22   | 21   |
| S5  | 15    | 26   | 18   |
| S6  | 21    | 23   | 22   |
| S7  | 13    | 17   | 19   |
| S8  | 18    | 24   | 18   |
| S9  | 17    | 28   | 22   |
| S10   | 16    | 25   | 22   |
| S11   | 13    | 30   | 21   |
| S12   | 18    | 23   | 21   |
| S13   | 16    | 19   | 19   |
| S14   | 11    | 21   | 16   |
| S15   | 13    | 21   | 15   |
| S16   | 19    | 20   | 13   |
| S17   | 17    | 19   | 25   |
| S18   | 18    | 22   | 28   |
| S19   | 16    | 25   | 26   |
| S20   | 12    | 29   | 21   |
| Mean  | 16.25 | 23.4 | 20.6 |
| SD  | 2.92  | 3.78 | 4.87 |

Legend: SS = surface strategy  
DS = deep strategy  
AS = achieving strategy



Appendix 23

Analysis of Variance (One Factor, Repeated Measure) for Scores Obtained by  
Subjects for Three Types of English Learning Strategy in Three Testing  
Sessions

*Surface strategy*

| Source of variance | Sum of square | Sum of mean square | Degree of freedom | F    | Prob.  |
|--------------------|---------------|--------------------|-------------------|------|--------|
| Time               | 13.3          | 6.65               | 2                 | 1.06 | 0.36   |
| Subject            | 417.6         | 21.98              | 19                | 3.5  | 0.0005 |
| T x S (error)      | .238.7        | 6.28               | 38                | -    | -      |

*Deep Strategy*

| Source of variance | Sum of square | Sum of mean square | Degree of freedom | F    | Prob.  |
|--------------------|---------------|--------------------|-------------------|------|--------|
| Time               | 4.8           | 2.4                | 2                 | 0.21 | 0.8    |
| Subject            | 836.27        | 44.01              | 19                | 3.95 | 0.0062 |
| T x S (error)      | .422.53       | 11.11              | 38                | -    | -      |

*Achieving strategy*

| Source of variance | Sum of square | Sum of mean square | Degree of freedom | F    | Prob. |
|--------------------|---------------|--------------------|-------------------|------|-------|
| Time               | 25.9          | 12.95              | 2                 | 1.45 | 0.25  |
| Subject            | 845.65        | 44.51              | 19                | 4.97 | 0     |
| T x S (error)      | .340.1        | 8.95               | 38                | -    | -     |

## Appendix 24

**Table 16. A Summary of Subjects' Responses in Four Tasks Required in Metalinguistic Judgment Test**

(#/%)

| Subject | Error Type | Discrimination |      |       | Location |      |       | Correction |      |       | Statement of Rule |       |       |
|---------|------------|----------------|------|-------|----------|------|-------|------------|------|-------|-------------------|-------|-------|
|         |            | T1             | T2   | T3    | T1       | T2   | T3    | T1         | T2   | T3    | T1                | T2    | T3    |
| S1      | Tense      | T4             | 2/11 | 16/89 | T4       | 2/11 | 16/89 | T4         | 2/11 | 16/89 |                   | 2/11  | 16/89 |
|         | Pronoun    |                | 3/20 | 12/80 |          | 3/20 | 12/80 |            | 3/20 | 12/80 |                   | 11/73 | 4/27  |
|         | D-N        |                | 1/20 | 4/80  |          | 1/20 | 4/80  |            | 1/20 | 4/80  |                   | 2/40  | 3/60  |
|         | S-V        |                | 1/50 | 1/50  |          | 1/50 | 1/50  |            | 1/50 | 1/50  |                   | 1/50  | 1/50  |
|         | Article    |                | 1/50 | 1/50  |          | 1/50 | 1/50  |            | 1/50 | 1/50  |                   | 2/100 |       |
| S2      | Tense      |                | 3/17 | 15/83 |          | 3/17 | 15/83 | 1/6        | 3/17 | 14/77 | 1/6               | 3/17  | 11/73 |
|         | Pronoun    |                | 4/27 | 11/73 |          | 4/27 | 11/73 |            | 4/27 | 11/73 |                   | 4/27  | 3/60  |
|         | D-N        |                | 1/20 | 4/80  |          | 1/20 | 4/80  |            | 2/40 | 3/60  | 1/20              | 1/20  | 1/50  |
|         | S-V        |                |      | 2/100 |          |      | 2/100 | 1/50       |      | 1/50  | 1/50              |       | 2/100 |
|         | Article    |                |      | 2/100 |          |      | 2/100 |            |      | 2/100 |                   |       |       |
| S3      | Tense      |                | 3/17 | 15/83 |          | 3/17 | 15/83 | 7          | 3/17 | 3/17  | 12/66             | 4/22  | 4/22  |
|         | Pronoun    |                | 2/13 | 13/87 |          | 2/13 | 13/87 |            | 2/13 |       | 12/80             |       | 1/7   |
|         | D-N        |                | 3/60 | 2/40  |          | 3/60 | 2/40  |            | 3/60 |       | 2/40              | 1/20  | 3/60  |
|         | S-V        |                | 1/50 | 1/50  |          | 1/50 | 1/50  |            | 1/50 |       | 1/50              |       | 1/50  |
|         |            |                |      | 2/100 |          |      | 2/100 |            |      |       | 2/100             |       | 2/100 |

Legend: T1, T2, T3, T4 = Type 1 response, Type 2 response, Type 3 response, Type 4 response

D-N = errors that violate determiner-noun number agreement

S-V = errors that violate subject-verb number agreement

^ = the corrections of errors without indication whether the subject was certain or uncertain about the corrections

#/ % = the number of instances of the type of response for a particular type of error/percentage of the number in the total number of responses to the particular type of error.

(#/%)

| Subject | Error Type | Discrimination |       |         | Location |       |            | Correction |       |        | Statement of Rule |       |       |       |       |
|---------|------------|----------------|-------|---------|----------|-------|------------|------------|-------|--------|-------------------|-------|-------|-------|-------|
|         |            | T1             | T2    | T3      | T1       | T2    | T3         | T1         | T2    | T3     | T1                | T2    | T3    |       |       |
| S4      | Tense      | 14             | 2/11  | 16/89   | 14       | 2/11  | 16/89      | 14         | 2/11  | 14/78  | 1/7               | 2/11  | 16/89 |       |       |
|         | Pronoun    |                | 8/53  | 7/47    |          | 8/53  | 7/47       |            | 8/53  | 7/47   | 1/20              | 8/53  | 6/40  |       |       |
|         | D-N        |                | 2/40  | 3/60    |          | 2/40  | 3/60       |            | 2/40  | 3/60   | 1/50              | 2/40  | 2/40  |       |       |
|         | S-V        |                |       | 2/100   |          |       | 2/100      |            |       | 2/100  | 1/50              |       | 1/50  |       |       |
|         | Article    |                |       | 2/100   |          |       | 2/100      |            |       | 2/100  |                   |       | 1/50  |       |       |
| S5      | Tense      |                | 1/5.5 | 17/94.5 |          | 1/5.5 | 15/17/94.5 |            | 1/5.5 | 1/5.5  | 16/89             |       | 3/17  | 15/83 |       |
|         | Pronoun    |                |       | 15/100  |          |       | 3/60       |            |       | 15/100 |                   | 1/7   | 14/93 |       |       |
|         | D-N        |                | 2/40  | 3/60    |          | 2/40  | 1/50       |            | 2/40  | 3/60   |                   | 3/60  | 2/40  |       |       |
|         | S-V        |                | 1/50  | 1/50    |          | 1/50  | 2/100      |            | 1/50  | 1/50   |                   | 1/50  | 1/50  |       |       |
|         | Article    |                |       | 2/100   |          |       |            |            |       | 2/100  |                   |       | 2/100 |       |       |
| S6      | Tense      |                | 4/22  | 14/78   |          | 4/22  | 4/22       | 10/56      |       | 4/22   | 5/28              | 9/50  |       | 4/22  | 14/78 |
|         | Pronoun    |                | 2/13  | 13/87   |          | 2/13  |            | 13/87      |       | 2/13   |                   | 13/87 |       | 4/27  | 11/73 |
|         | D-N        |                | 1/20  | 4/80    |          | 1/20  |            | 4/80       |       | 1/20   |                   | 4/80  | 1/20  | 1/20  | 3/60  |
|         | S-V        |                |       | 2/100   |          |       |            | 2/100      | 1/50  |        |                   | 1/50  | 1/50  |       | 1/50  |
|         |            |                | 2/100 |         |          | 2/100 |            |            |       | 2/100  |                   |       | 2/100 |       |       |

| #/%     |            |                |       |            |          |       |            |            |       |       |                   |       |       |         |
|---------|------------|----------------|-------|------------|----------|-------|------------|------------|-------|-------|-------------------|-------|-------|---------|
| Subject | Error Type | Discrimination |       |            | Location |       |            | Correction |       |       | Statement of Rule |       |       |         |
|         |            | T1             | T2    | T3         | T1       | T2    | T3         | T1         | T2    | T3    | T1                | T2    | T3    |         |
| S7      | Tense      | 14             | 1/5.5 | 14.17/94.5 | 14       | 1/5.5 | 14/17/94.5 | 1/5.5      | 1/5.5 | 16/89 | 1/5.5             | 1/5.5 | 16/89 |         |
|         | Pronoun    |                | 1/7   | 5/100      |          | 1/7   | 5/100      |            | 1/7   | 14/93 |                   | 1/7   | 14/93 |         |
|         | D-N        |                |       | 2/100      |          |       | 2/100      |            |       | 5/100 |                   |       | 5/100 |         |
|         | S-V        |                |       | 2/100      |          |       | 2/100      |            |       | 2/100 | 1/50              |       | 1/50  |         |
|         | Article    |                |       |            |          |       |            |            | 1/50  | 1/50  | 1/50              |       | 1/50  |         |
| S8      | Tense      |                | 1/5.5 | 17/94.5    |          | 1/5.5 | 17/94.5    | 2/11       | 1/6   | 6/33  | 9/50              |       | 1/5.5 | 17/94.5 |
|         | Pronoun    |                | 2/13  | 13/87      |          | 2/13  | 13/87      |            | 2/13  |       | 13/87             | 1/7   | 5/33  | 9/60    |
|         | D-N        |                | 3/60  | 2/40       |          | 3/60  | 2/40       |            | 3/60  |       | 2/40              |       | 4/80  | 1/20    |
|         | S-V        |                |       | 2/100      |          |       | 2/100      |            |       |       | 2/100             | 1/50  |       | 1/50    |
|         | Article    |                | 2/100 |            |          | 2/100 |            |            | 2/100 |       |                   |       | 2/100 |         |
| S9      | Tense      |                | 1/5.5 | 17/94.5    |          | 1/5.5 | 17/94.5    | 1/5.5      | 1/5.5 |       | 16/89             |       | 1/5.5 |         |
|         | Pronoun    |                | 1/50  | 1/50       |          | 1/50  | 1/50       |            | 1/50  |       | 1/50              |       | 1/50  | 1/50    |
|         | D-N        |                | 2/40  | 3/60       |          | 2/40  | 3/60       | 1/20       | 2/40  |       | 2/40              | 1/20  | 2/40  | 2/40    |
|         | S-V        |                | 1/50  | 1/50       |          | 1/50  | 1/50       |            | 1/50  |       | 1/50              |       | 1/50  | 1/50    |
|         |            |                | 1/50  | 1/50       |          | 1/50  | 1/50       |            | 1/50  |       | 1/50              |       | 1/50  |         |

(#/%)

| Subject | Error Type | Discrimination |       |    |         | Location |       |    |         | Correction |       |    |         | Statement of Rule |       |         |
|---------|------------|----------------|-------|----|---------|----------|-------|----|---------|------------|-------|----|---------|-------------------|-------|---------|
|         |            | T1             | T2    | T3 | T4      | T1       | T2    | T3 | T4      | T1         | T2    | T3 | T4      | T1                | T2    | T3      |
| S10     | Tense      |                |       |    | 18/100  |          |       |    | 18/100  | 1/5.5      |       |    | 17/94.5 | 1/5.5             |       | 17/94.5 |
|         | Pronoun    |                |       |    | 15/100  |          |       |    | 15/100  |            |       |    | 15/100  |                   |       | 15/100  |
|         | D-N        |                |       |    | 5/100   |          |       |    | 5/100   |            |       |    | 5/100   |                   |       | 5/100   |
|         | S-V        |                | 1/50  |    | 1/50    |          | 1/50  |    | 1/50    |            | 1/50  |    | 1/50    | 1/50              |       | 1/50    |
|         | Article    |                | 1/50  |    | 1/50    |          | 1/50  |    | 1/50    |            | 1/50  |    | 1/50    | 1/50              |       | 1/50    |
| S11     | Tense      |                | 2/11  |    | 16/89   |          | 2/11  |    | 16/89   | 2/11       | 2/11  |    | 14/78   | 1/6               | 2/11  | 15/83   |
|         | Pronoun    |                | 1/50  |    | 1/50    |          | 1/50  |    | 1/50    |            | 1/50  |    | 1/50    |                   | 1/50  | 1/50    |
|         | D-N        |                |       |    | 5/100   |          |       |    | 5/100   | 1/20       |       |    | 4/80    | 2/40              |       | 3/60    |
|         | S-V        |                |       |    | 2/100   |          |       |    | 2/100   | 1/50       |       |    | 1/50    | 1/50              |       | 1/50    |
|         | Article    |                |       |    | 2/100   |          |       |    | 2/100   |            |       |    | 2/100   |                   |       | 2/100   |
| S12     | Tense      |                | 1/5.5 |    | 17/94.5 |          | 1/5.5 |    | 17/94.5 |            | 1/5.5 |    | 17/94.5 |                   | 1/5.5 | 17/94.5 |
|         | Pronoun    |                | 9/60  |    | 6/40    |          | 9/60  |    | 6/40    |            | 10/67 |    | 5/33    |                   | 10/67 | 5/33    |
|         | D-N        |                | 2/40  |    | 3/60    |          | 2/40  |    | 3/60    | 1/20       | 2/40  |    | 2/40    | 1/20              | 2/40  | 2/40    |
|         | S-V        |                | 1/50  |    | 1/50    |          | 1/50  |    | 1/50    |            | 1/50  |    | 1/50    |                   | 1/50  | 1/50    |
|         |            |                | 1/50  |    | 1/50    |          | 1/50  |    | 1/50    |            | 1/50  |    | 1/50    |                   | 1/50  | 1/50    |



(#/%)

| Subject | Error Type | Discrimination |       |    |         | Location |       |    |         | Correction |       |       |       | Statement of Rule |       |         |
|---------|------------|----------------|-------|----|---------|----------|-------|----|---------|------------|-------|-------|-------|-------------------|-------|---------|
|         |            | T1             | T2    | T3 | T4      | T1       | T2    | T3 | T4      | T1         | T2    | T3    | T4    | T1                | T2    | T3      |
| S16     | Tense      |                |       |    | 18/100  |          |       |    | 18/100  | 1/5.5      |       | 1/5.5 | 16/89 | 1/5.5             |       | 17/94.5 |
|         | Pronoun    |                | 2/13  |    | 13/87   |          | 2/13  |    | 13/87   |            | 2/13  |       | 13/87 |                   | 2/13  | 13/87   |
|         | D-N        |                | 1/20  |    | 4/80    |          | 1/20  |    | 4/80    |            | 1/20  |       | 4/80  |                   | 1/20  | 4/80    |
|         | S-V        |                |       |    | 2/100   |          |       |    | 2/100   |            |       |       | 2/100 |                   |       | 2/100   |
|         | Article    |                |       |    | 2/100   |          |       |    | 2/100   |            |       |       | 2/100 |                   | 1/50  | 1/50    |
| S17     | Tense      |                |       |    | 18/100  |          |       |    | 18/100  | 2/11       |       |       | 16/89 |                   | 3/17  | 15/83   |
|         | Pronoun    |                | 6/40  |    | 9/60    |          | 6/40  |    | 9/60    |            | 7/47  |       | 8/53  |                   | 10/67 | 5/33    |
|         | D-N        |                | 1/20  |    | 4/80    |          | 1/20  |    | 4/80    |            | 1/20  |       | 4/80  |                   | 2/40  | 3/60    |
|         | S-V        |                |       |    | 2/100   |          |       |    | 2/100   |            |       |       | 2/100 |                   | 1/50  | 1/50    |
|         | Article    |                | 1/50  |    | 1/50    |          | 1/50  |    | 1/50    |            | 1/50  |       | 1/50  |                   | 1/50  | 1/50    |
| S18     | Tense      |                | 1/5.5 |    | 17/94.5 |          | 1/5.5 |    | 17/94.5 | 3/17       | 1/5.5 | 1/5.5 | 13/72 |                   | 3/17  | 15/83   |
|         | Pronoun    |                | 2/13  |    | 13/87   |          | 2/13  |    | 13/87   |            | 2/13  |       | 13/87 |                   | 4/27  | 11/73   |
|         | D-N        |                | 1/20  |    | 4/80    |          | 1/20  |    | 4/80    |            | 1/20  |       | 4/80  | 1/20              | 1/20  | 3/60    |
|         | S-V        |                |       |    | 2/100   |          |       |    | 2/100   | 1/50       |       |       | 1/50  | 1/50              |       | 1/50    |
|         |            |                |       |    | 2/100   |          |       |    | 2/100   |            |       |       | 2/100 | 1/50              |       | 1/50    |

300

(#/%)

[illegible]



Table 20. Types of Sentence used by Subjects to Express Foreground and Background Information

| (N/%) |             |   |  |   |   |  |  |   |  |  |   |   |  |  |   |
|-------|-------------|---|--|---|---|--|--|---|--|--|---|---|--|--|---|
| Subj. | DF \ ES     | T1  | T2   | T3  | T4  | T5   | T6   | T7  | T8   | T9   | T10   | T11   | T12  | T13  | T14   |
| S1    | Fore-ground | nf  | sv 2/50<br>svo 1/25<br>cs 1/25   | nf  | sv 1/50<br>svo 1/50   | sv 1/50<br>cs 1/50   | sv 2/66.6<br>ng 1/33.3   | sv 1/25<br>svo 1/25<br>pv 1/25<br>ic 1/25                             | sv 1/25<br>svo 1/25<br>cs 1/25<br>ns 1/25                      | sv 4/57.1<br>svo 3/42.8  | sv 1/50<br>cs 1/50  | sv 2/28.5<br>cs 2/28.5<br>svo 1/14.2<br>ng 1/14.2<br>ic 1/14.2                    | sv 1/50<br>cs 1/50   | nf   | svo 2/66.6<br>sv 1/33.3   |
|       | Back-ground | cs 6/50<br>lv 3/25<br>svo 2/17<br>sv 1/8                    | lv 4/57.1<br>sv 1/14.2<br>cs 1/14.2<br>ng 1/14.2                       | cs 4/80<br>lv 1/20                                    | svo 6/33.3<br>sv 4/22.2<br>cs 3/16.6<br>lv 3/16.6<br>ng 1/5.5<br>ic 1/5.5 | lv 6/37.5<br>svo 4/25<br>cs 3/18.7<br>sv 1/6.2<br>ng 1/6.2<br>osv 1/6.2    | lv 9/40.9<br>sv 5/23<br>cs 4/18.1<br>ng 2/9<br>svo 1/4.5<br>ip 1/4.5 | cs 10/43.5<br>svo 6/26<br>lv 3/13<br>sv 2/8.7<br>ng 1/4.3<br>pv 1/4.3 | cs 11/57.8<br>svo 3/15.7<br>sv 2/10.5<br>ng 2/10.5<br>lv 1/5.2 | sv 9/37.5<br>cs 5/20.8<br>lv 4/16.6<br>svo 3/12.5<br>tb 2/8.3<br>pv 1/4.1  | lv 18/36<br>svo 9/18<br>sv 8/16<br>cs 7/14<br>tb 4/8<br>ns 2/4<br>nm 1/2<br>nvc 1/2<br>ic 1/2 | cs 8/34.7<br>lv 6/26<br>sv 5/21.7<br>svo 2/8.7<br>ng 1/4.3<br>tb 1/4.3            | sv 6/33.3<br>cs 5/27.7<br>svo 3/16.6<br>lv 2/11.1<br>ng 2/11.1 | cs 8/42.1<br>lv 4/21<br>svo 3/15.7<br>ng 2/10.5<br>sv 1/5.2<br>ic 1/5.2                | cs 6/26<br>lv 6/26<br>sv 4/17.3<br>svo 4/17.3<br>ng 2/8.6<br>ns 1/4.3   |
| S2    | Fore-ground | sv 1/50<br>cs 1/50  | svo 4/57.1<br>cs 2/28.5<br>sv 1/14.2                                   | cs 1/100  | sv 2/50<br>svo 2/50   | cs 4/50<br>sv 3/37.5<br>nm 1/12.5  | cs 1/100   | svo 2/50<br>cs 1/25<br>ng 1/25  | svo 4/50<br>sv 3/37.5<br>cs 1/12.5                             | cs 4/57.1<br>sv 1/14.2<br>svo 1/14.2<br>ng 1/14.2                          | cs 7/50<br>sv 4/28.5<br>svo 3/21.4  | sv 7/43.7<br>cs 4/25<br>svo 3/18.7<br>ng 1/6.2<br>ic 1/6.2                        | sv 1/100   | sv 4/44.4<br>cs 2/22.2<br>svo 1/11.1<br>ng 1/11.1<br>ic 1/11.1                         | sv 4/57.1<br>svo 2/28.5<br>cs 1/14.2                                    |
|       | Back-ground | sv 5/41.6<br>cs 3/25<br>nvc 2/16.6<br>lv 1/8.3<br>svo 1/8.3 | svo 3/27.2<br>sv 2/18.1<br>cs 2/18.1<br>lv 2/18.1<br>es 1/9<br>nvc 1/9 | sv 3/23<br>svo 3/23<br>cs 3/23<br>lv 3/23<br>ic 1/7.6 | cs 7/53.8<br>sv 3/23<br>svo 1/7.6<br>lv 1/7.6<br>ng 1/7.6                 | sv 4/28.5<br>lv 4/28.5<br>svo 2/14.2<br>cs 2/14.2<br>pv 1/7.1<br>nvc 1/7.1 | svo 4/36.3<br>cs 3/27.2<br>lv 2/18.1<br>tb 2/18.1                    | sv 8/72.7<br>svo 1/9<br>cs 1/9<br>lv 1/9                              | cs 4/30.7<br>lv 4/30.7<br>sv 3/23<br>ng 2/15.3                 | cs 4/28.5<br>sv 3/21.4<br>svo 3/21.4<br>pv 2/14.2<br>ng 1/7.1<br>nvc 1/7.1 | cs 9/56.2<br>svo 3/18.7<br>lv 2/12.5<br>sv 1/6.3<br>rq 1/6.3                                  | sv 6/30<br>cs 4/20<br>svo 3/15<br>ng 3/15<br>pv 1/5<br>tb 1/5<br>rq 1/5<br>el 1/5 | svo 10/38.4<br>cs 8/30.7<br>lv 5/19.2<br>sv 2/7.6<br>ng 1/3.8  | cs 10/41.6<br>sv 3/12.5<br>svo 3/12.5<br>lv 3/12.5<br>ir 2/8.3<br>tb 2/8.3<br>pv 1/4.1 | cs 10/43.4<br>sv 5/21.7<br>svo 3/13<br>lv 2/8.6<br>ir 2/8.6<br>nm 1/4.3 |
| S3    | Fore-ground | sv 2/50<br>svo 2/50   | cs 6/60<br>sv 4/40   | cs 2/66.6<br>sv 1/33.3                                | cs 2/50<br>sv 1/25<br>svo 1/25  | sv 4/50<br>svo 2/25<br>ng 1/12.5<br>cs 1/12.5                              | svo 4/40<br>sv 3/30<br>cs 2/20<br>ng 1/10                            | sv 11/57.8<br>svo 5/26.3<br>cs 2/10.5<br>pv 1/5.2                     | sv 6/54.5<br>svo 2/18.1<br>cs 2/18.1<br>ic 1/9                 | sv 4/30.7<br>svo 4/30.7<br>cs 3/23<br>pv 1/7.6<br>ic 1/7.6                 | sv 12/37.5<br>svo 10/31.2<br>cs 9/28.1<br>ng 1/3.1  | sv 7/43.7<br>svo 5/31.2<br>cs 2/18.7<br>ng 1/6.2                                  | sv 3/60<br>cs 2/40   | svo 4/30.8<br>sv 3/23.1<br>cs 9/22.9<br>ng 1/7.6<br>nvc 1/7.6                          | cs 3/42<br>sv 2/28.5<br>svo 1/14.2<br>ng 1/14.2                         |

Legend: Subj.= subject; DF= discourse function; ES= elicitation session; T1,T2, etc. = the first elicitation session; the second elicitation session, etc.

cs = complex sentence; sv = subject+verb(+other elements); svo = subject+verb+object(+other elements); lv = subject-link verb+other elements; ng = negative; ir = interrogative

pv = clause in passive voice; ns = clause without subject; nvc = clause without verb; nm = subordinate without main clause; ic = unfinished clause; ip = imperative; rq = rhetoric question;

tb = there+be; cs = emphatic structure; el = exclamatory; osv = object+subject+verb; "nf" = no foreground information; "nb" = no background information; N/% = number of instances the particular clause type was used/percentage of the number in the total instances of all types of clauses used to express the particular type of information.

| Subj. | DF          | ES   | #/%  |   |   |  |  |  |   |   |  |  |  |  |   |   |
|-------|-------------|--|--|---|---|--|--|--|---|---|--|--|--|--|---|---|
|       |             |  | T1   | T2  | T3  | T4   | T5   | T6   | T7  | T8  | T9   | T10  | T11  | T12  | T13   | T14   |
| S3    | Back-ground |  | sv 4/21<br>cs 4/21<br>lv 4/21<br>ip 2/11<br>svo 1/5.2<br>ng 1/5.2<br>ir 1/5.2<br>tb 1/5.2<br>nvc 1/5.2 | sv 6/27.2<br>lv 5/22.7<br>svo 5/22.7<br>cs 3/13.5<br>ng 2/9<br>ir 1/4.5 | cs 6/42.8<br>sv 3/21.4<br>ng 3/21.4<br>lv 1/7.1<br>svo 1/7.1                          | cs 13/44.7<br>svo 7/24.1<br>sv 4/13.7<br>lv 4/13.7<br>ng 1/3.4   | cs 11/33.3<br>sv 10/30.3<br>lv 5/15.1<br>svo 2/6<br>tb 2/6<br>ic 1/3<br>ns 1/3<br>nm 1/3 | cs 10/34.4<br>svo 6/20.6<br>pv 4/13.7<br>nm 3/10.3<br>lv 2/6.9<br>sv 1/3.4<br>tb 1/3.4<br>ic 1/3.4<br>ns 1/3.4 | cs 13/46.3<br>lv 5/17.8<br>ir 3/10.7<br>sv 2/7.1<br>svo 2/7.1<br>pv 1/3.5<br>ip 1/3.5<br>nm 1/3.5 | svo 24/32<br>cs 19/25.3<br>lv 13/17.3<br>sv 5/6.6<br>ng 4/5.3<br>pv 3/4<br>ip 3/4<br>ic 3/4<br>tb 1/1.3 | lv 10/26.3<br>cs 11/28.8<br>svo 5/13.1<br>sv 4/10.5<br>ng 4/10.5<br>ic 3/7.8<br>ir 1/2.6 | sv 9/25<br>cs 8/22.2<br>svo 6/16.6<br>lv 5/13.8<br>ir 4/11.1<br>ip 3/8.3<br>ic 1/2.7 | cs 15/35.7<br>sv 10/23.8<br>svo 7/16.6<br>lv 3/7.1<br>ng 3/7.1<br>ir 1/2.3<br>ip 1/2.3<br>tb 1/2.3<br>es 1/2.3 | cs 18/45<br>sv 7/17.5<br>lv 5/12.5<br>svo 4/10<br>pv 4/10<br>ng 1/2.5<br>nvc 1/2.5 | cs 6/28.5<br>sv 5/23.8<br>svo 3/14.2<br>lv 3/14.2<br>pv 2/9.5<br>ic 1/4.7<br>tb 1/4.7 | svo 9/40.9<br>sb 6/27.2<br>lv 4/18.1<br>ir 1/4.5<br>ns 1/4.5<br>nvc 1/4.5 |
| S4    | Fore-ground | sv 2/33.3<br>svo 2/33.3<br>cs 2/33.3                 | cs 4/66.6<br>sv 1/16.6<br>ng 1/16.6  | sv 4/50<br>cs 2/25<br>svo 1/12.5<br>ng 1/12.5                           | cs 3/42.8<br>svo 2/28.5<br>ns 2/28.5  | sv 19/46.3<br>cs 13/31.6<br>svo 8/19.5<br>ng 1/2.4   | sv 15/65.2<br>svo 4/17.3<br>cs 4/17.3  | sv 7/36.8<br>svo 7/36.8<br>cs 4/21<br>ng 1/5.2   | sv 2/40<br>svo 3/60   | cs 6/49.9<br>sv 4/33.3<br>svo 2/16.6  | svo 10/45.4<br>sb 8/36.2<br>sv 3/13.6<br>ng 1/4.5  | sv 4/36.3<br>svo 4/36.3<br>cs 3/27.1   | sv 12/48<br>svo 7/28<br>cs 6/24  | cs 5/55.5<br>sv 2/22.2<br>svo 2/22.2   | sv 19/54.2<br>cs 9/25.6<br>svo 5/14.2<br>ng 1/2.8<br>ic 1/2.8                         |   |
|       | Back-ground | lv 3/30<br>sv 2/20<br>svo 2/20<br>cs 2/20<br>ip 1/10 | svo 5/35.7<br>cs 3/21.3<br>sv 2/14.2<br>lv 2/14.2<br>pv 1/7.1<br>ns 1/7.1                              | cs 8/49.9<br>svo 4/25<br>lv 1/6.2<br>ng 1/6.2<br>ip 1/6.2<br>nm 1/6.2   | lv 5/29.4<br>cs 4/23.4<br>sv 3/17.6<br>svo 2/11.7<br>ng 1/5.8<br>ic 1/5.8<br>nm 1/5.8 | cs 14/27.4<br>svo 9/17.6<br>lv 9/17.6<br>ng 6/11.7<br>ir 5/9.8<br>sv 2/3.9<br>pv 2/3.9<br>ip 2/3.9<br>tb 1/1.9<br>ns 1/1.9 | cs 19/45.1<br>lv 9/21.4<br>svo 6/14.2<br>ir 3/7.1<br>sv 2/4.7<br>ng 2/4.7<br>ip 1/2.3    | cs 9/42.7<br>lv 5/23.8<br>svo 3/14.2<br>sv 2/9.5<br>ng 1/4.7<br>ir 1/4.7                                       | lv 10/33.3<br>svo 8/26.6<br>pv 4/13.3<br>sv 3/10<br>cs 4/13.2<br>nvc 1/3.3                        | cs 16/38<br>svo 7/16.6<br>ng 7/16.6<br>lv 5/14.7<br>sv 3/10<br>sv 4/9.5<br>pv 2/4.7                     | cs 16/46.9<br>svo 9/26.9<br>lv 5/14.7<br>ng 2/5.8<br>ir 1/2.9<br>ic 1/2.9                | cs 11/45.7<br>lv 7/29.1<br>sv 4/16.6<br>svo 1/4.1<br>ng 1/4.1                        | cs 21/48.7<br>svo 9/20.9<br>lv 6/13.9<br>sv 5/11.6<br>ng 1/2.3<br>ip 1/2.3                                     | cs 10/35.7<br>lv 7/25<br>sv 6/21.4<br>svo 4/14.2<br>tb 1/3.5                       | cs 22/44<br>sv 10/20<br>lv 7/14<br>svo 4/8<br>ng 4/8<br>ir 1/2<br>ic 1/2<br>es 1/2    |   |
| S5    | Fore-ground | nf   | sv 3/37.5<br>cs 3/37.5<br>svo 1/12.5<br>pv 1/12.5  | sv 4/50<br>cs 3/37.5<br>svo 1/12.5                                      | sv 2/50<br>svo 1/25<br>ic 1/25  | sv 2/66.6<br>svo 1/33.3  | sv 4/80<br>cs 1/20   | cs 4/50<br>sv 3/37.5<br>svo 1/12.5   | sv 7/63.6<br>cs 3/27.1<br>svo 1/9   | sv 3/50<br>ng 2/33.3<br>pv 1/16.6   | cs 2/50<br>sv 1/25<br>svo 1/25   | svo 10/71.4<br>sv 2/14.2<br>cs 1/7.1<br>ns 1/7.1                                     | nf   | sv 8/53.3<br>cs 5/33.2<br>svo 2/13.3   | svo 6/40<br>cs 5/33.3<br>sv 3/20<br>ng 1/6.6  |   |

| Subj. | DF          | ES  |  |  |   |  |   |   |  |  |   |  |   |  |   | (#/%) |  |
|-------|-------------|---|--|--|---|--|---|---|--|--|---|--|---|--|---|-------|--|
|       |             | T1  | T2   | T3   | T4  | T5   | T6  | T7  | T8   | T9   | T10   | T11  | T12   | T13  | T14   |       |  |
| S5    | Back-ground | lv 4/36.3<br>cs 3/27.2<br>svo 1/9<br>ng 1/9<br>tb 1/9<br>ic 1/9 | sv 3/33.3<br>cs 3/33.3<br>lv 2/22.2<br>ir 1/11.1         | cs 7/30.3<br>lv 5/21.7<br>svo 4/17.3<br>sv 3/13<br>ng 1/4.3<br>ic 1/4.3<br>nvc 1/4.3 | sv 4/36.3<br>lv 3/27.2<br>cs 2/18<br>svo 1/9<br>ng 1/9      | sv 7/33.3<br>sv 4/19<br>cs 4/19<br>lv 3/14.2<br>ic 3/14.2                | svo 5/27.7<br>sv 4/22.2<br>cs 4/22.2<br>lv 2/11.1<br>pv 1/5.5<br>ic 1/5.5<br>ns 1/5.5           | cs 3/60<br>sv 2/40  | sv 2/25<br>cs 2/25<br>lv 2/25<br>svo 1/12.5<br>ng 1/12.5   | svo 2/33.3<br>ng 2/33.3<br>lv 1/16.6<br>cs 1/16.6                        | sv 3/37.5<br>cs 2/25<br>ng 2/25<br>lv 1/12.5                | lv 6/37.5<br>sv 5/31.2<br>cs 2/12.5<br>ir 2/12.5<br>svo 1/6.2                                    | sv 2/25<br>cs 2/25<br>svo 1/12.5<br>lv 1/12.5<br>tb 1/12.5<br>ns 1/12.5           | sv 6/27.2<br>cs 5/22.6<br>svo 4/18.1<br>lv 3/13.6<br>ng 1/4.5<br>pv 1/4.5<br>ns 1/4.5<br>nvc 1/4.5 | cs 9/52.9<br>sv 4/23.5<br>tb 2/11.7<br>lv 1/5.8<br>ic 1/5.8   |       |  |
| S6    | Fore-ground | nf  | sv 4/50<br>cs 2/25<br>svo 1/12.5<br>ng 1/12.5            | nf   | cs 2/66.6<br>sv 1/33.3                                      | cs 3/30<br>sv 2/20<br>svo 2/20<br>ic 2/20<br>ng 1/10                     | sv 11/61.1<br>svo 4/22.2<br>cs 3/16.6   | svo 5/50<br>sv 2/20<br>cs 2/20<br>ic 1/10   | sv 1/33.3<br>cs 1/33.3<br>pv 1/33.3  | nf   | cs 5/45.4<br>sv 3/27.2<br>svo 3/27.2                        | sv 8/44.4<br>cs 8/44.4<br>svo 1/5.5<br>ng 1/5.5  | sv 4/40<br>cs 4/40<br>svo 2/20  | sv 3/30<br>cs 3/30<br>svo 3/30<br>ng 1/10  | svo 4/50<br>cs 2/25<br>sv 1/12.5<br>ng 1/12.5   |       |  |
|       | Back-ground | cs 4/40<br>svo 3/30<br>lv 2/20<br>ns 1/10                       | cs 4/33.3<br>lv 3/25<br>sv 3/25<br>ip 1/8.3<br>nvc 1/8.3 | cs 5/55.5<br>lv 2/22.2<br>svo 1/11.1<br>ns 1/11.1                                    | cs 6/40<br>svo 4/26.6<br>sv 2/13.3<br>lv 2/13.3<br>ng 1/6.6 | cs 6/42.8<br>sv 5/35.7<br>sb 5/35.7<br>svo 1/7.1<br>lv 1/7.1<br>ic 1/7.1 | cs 7/33.3<br>lv 5/23.8<br>sv 2/9.5<br>svo 2/9.5<br>ir 2/9.5<br>tb 2/9.5<br>pv 2/9.5<br>ic 1/4.7 | cs 12/36.3<br>lv 6/18.1<br>sv 5/15.1<br>svo 3/9<br>ir 3/9<br>tb 1/3<br>cs 1/3<br>ic 1/3<br>ns 1/3 | svo 12/37.5<br>cs 6/18.7<br>sv 5/15.6<br>svo 6/27.2<br>lv 3/9.3<br>ng 2/6.2<br>nvc 2/6.2<br>pv 1/3.1<br>ic 1/3.1 | cs 7/31.8<br>sv 6/27.2<br>svo 6/27.2<br>lv 1/4.5<br>ic 1/4.5<br>ns 1/4.5 | svo 4/36.3<br>sv 2/18.1<br>lv 2/18.1<br>cs 2/18.1<br>ic 1/9 | sv 4/30.7<br>cs 2/15.3<br>ir 2/15.3<br>svo 1/7.7<br>lv 1/7.7<br>ng 1/7.7<br>ic 1/7.7<br>nm 1/7.7 | cs 5/33.3<br>sv 3/20<br>lv 3/20<br>svo 1/6.6<br>ic 1/6.6<br>ns 1/6.6<br>nvc 1/6.6 | svo 6/31.5<br>cs 4/21<br>lv 4/21<br>sv 3/15.7<br>ng 2/10.5   | cs 9/37.5<br>svo 6/25<br>lv 3/12.5<br>sv 1/4.1<br>ng 1/4.1<br>pv 1/4.1<br>rq 1/4.1<br>ic 1/4.1<br>nvc 1/4.1 |       |  |
| S7    | Fore-ground | cs 3/75<br>sv 1/25  | sv 7/58.3<br>ng 2/16.6<br>cs 2/16.6<br>svo 1/8.3         | sv 7/53.8<br>svo 5/38.4<br>cs 1/7.6  | sv 2/50<br>svo 1/25<br>ng 1/25                              | sv 6/60<br>cs 2/20<br>ng 1/10<br>nvc 1/10                                | sv 1/50<br>nvc 1/50   | sv 7/63.6<br>cs 2/18.1<br>svo 2/18.1  | sv 6/42.8<br>svo 4/28.5<br>cs 2/14.2<br>ng 1/7.1<br>ic 1/7.1   | svo 9/37.5<br>cs 7/29.1<br>sv 6/25<br>ng 1/4.2<br>ns 1/4.2               | sv 8/47<br>svo 5/29.4<br>cs 3/17.5<br>pv 1/5.8              | sv 6/46.1<br>cs 5/38.4<br>svo 2/15.3   | cs 6/37.5<br>sv 5/31.2<br>svo 3/18.7<br>ng 2/12.5                                 | sv 4/36.3<br>svo 4/36.3<br>cs 2/18.1<br>pv 1/9   | cs 7/53.7<br>sv 4/30.7<br>svo 2/15.3  |       |  |

| Subj | DF          | ES  |   | (#/%)   |   |   |   |   |   |  |  |   |  |  |  |
|------|-------------|---|---|---|---|---|---|---|---|--|--|---|--|--|--|
|      |             | T1  | T2  | T3  | T4  | T5  | T6  | T7  | T8  | T9   | T10  | T11   | T12  | T13  | T14  |
| S7   | Back-ground | lv 3/33.3<br>cs 2/22.2<br>sv 1/11.1<br>svo 1/11.1<br>el 1/11.1<br>ic 1/11.1 | cs 11/40.7<br>ip 4/14.8<br>sv 3/11.1<br>lv 3/11.1<br>ng 3/11.1<br>svo 1/3.7<br>ir 1/3.7<br>nm 1/3.7 | cs 7/29.1<br>svo 6/25<br>sv 4/16.6<br>lv 4/16.6<br>ir 2/8.3<br>ip 1/4.1       | cs 4/33.3<br>sv 3/25<br>svo 2/16.6<br>nvc 2/16.6<br>ic 1/8.3                                      | sb 12/46.1<br>sv 4/15.3<br>svo 4/15.3<br>lv 4/15.3<br>ir 1/3.8<br>nm 1/3.8                        | cs 13/65<br>sv 3/15<br>svo 3/15<br>lv 1/5                     | cs 8/33.2<br>lv 5/20.8<br>sv 4/16.6<br>lv 3/12.5<br>svo 2/8.3<br>ng 2/8.3<br>tb 1/4.1<br>es 1/4.1 | cs 13/54.1<br>svo 4/16.6<br>lv 3/12.5<br>sv 2/8.3<br>svo 3/8.5<br>pv 2/5.7<br>ng 1/2.8<br>tb 1/2.8<br>nvc 1/2.8 | cs 13/37.1<br>sv 9/25.7<br>lv 5/14.2<br>svo 3/8.5<br>ng 4/10.2<br>sv 2/5.1<br>pv 2/5.1<br>tb 2/5.1<br>el 2/5.1<br>ic 1/2.5 | cs 13/33.2<br>svo 7/17.9<br>lv 6/15.3<br>ng 4/10.2<br>sv 2/5.1<br>pv 2/5.1<br>tb 2/5.1<br>el 2/5.1<br>ic 1/2.5 | cs 13/41.9<br>svo 6/19.3<br>sv 4/12.9<br>lv 3/9.6<br>ir 2/6.4<br>ng 1/3.2<br>tb 1/3.2<br>pv 1/3.2 | cs 12/34.2<br>svo 7/20<br>lv 5/14.2<br>sv 4/11.4<br>pv 3/8.5<br>ng 2/5.7<br>ic 1/2.8<br>ns 1/2.8 | cs 14/46.6<br>svo 5/16.6<br>sv 4/13.3<br>lv 3/10<br>ng 2/6.6<br>pv 1/3.3<br>nvc 1/3.3            | cs 12/42.7<br>lv 8/28.5<br>sv 6/21.4<br>svo 1/3.5<br>ir 1/3.5  |
| S8   | Fore-ground | nf  | sv 6/50<br>svo 3/25<br>cs 2/16.6<br>ns 1/8.3  | svo 6/46<br>cs 4/30.6<br>sv 3/23  | cs 3/60<br>sv 1/20<br>svo 1/20  | nf  | sv 4/57.1<br>svo 3/42.8                                       | cs 3/50<br>svo 2/33.3<br>sv 1/16.6  | sv 11/68.7<br>cs 3/18.7<br>svo 2/12.5   | sv 6/66.6<br>cs 2/22.2<br>svo 1/11.1   | svo 2/100  | sv 2/33.3<br>svo 2/33.3<br>cs 2/33.3  | svo 4/66.6<br>sv 1/16.6<br>cs 1/16.6   | sv 7/58.3<br>svo 2/16.6<br>cs 2/16.6<br>ic 1/8.3   | svo 8/44.4<br>sv 6/33.3<br>cs 4/22.2   |
|      | Back-ground | svo 5/83.3<br>sv 1/16.6   | svo 8/36.3<br>sv 4/18.1<br>cs 4/18.1<br>lv 2/9<br>tb 2/9<br>ir 1/4.5<br>pv 1/4.5                    | svo 3/27.2<br>sv 2/18.1<br>ng 2/18.1<br>cs 1/9<br>lv 1/9<br>tb 1/9<br>nvc 1/9 | sv 5/27.7<br>cs 5/27.7<br>lv 2/11.1<br>svo 2/11.1<br>ir 1/5.5<br>ic 1/5.5<br>ns 1/5.5<br>nm 1/5.5 | svo 8/29.6<br>cs 6/22.2<br>sv 4/14.8<br>lv 4/14.8<br>tb 2/7.4<br>pv 1/3.7<br>ns 1/3.7<br>nm 1/3.7 | sv 6/31.5<br>cs 5/26.3<br>svo 5/26.3<br>lv 2/10.5<br>tb 1/5.2 | svo 6/35.2<br>cs 5/29.4<br>sv 3/17.6<br>ng 2/11.7<br>ir 1/5.8                                     | sv 5/20.8<br>cs 5/20.8<br>lv 5/20.8<br>svo 5/20.8<br>ip 2/8.3<br>ng 1/4.1<br>ic 1/4.1                           | svo 14/42.4<br>sv 8/24.2<br>sb 6/18.1<br>lv 3/9<br>ng 1/3<br>ip 1/3  | svo 9/37.5<br>lv 6/25<br>cs 5/20.8<br>sv 2/8.3<br>ic 1/4<br>nvc 1/4  | sv 7/29.1<br>cs 7/29.1<br>svo 5/20.8<br>lv 3/12.5<br>tb 2/8.3                                     | svo 9/36<br>cs 8/32<br>sv 3/12<br>lv 3/12<br>ir 1/4<br>ic 1/4                                    | cs 15/35.6<br>lv 8/19<br>sv 7/16.6<br>svo 7/16.6<br>ng 2/4.7<br>ir 1/2.3<br>ns 1/2.3<br>nm 1/2.3 | sv 10/25<br>cs 10/25<br>svo 6/15<br>lv 4/10<br>ic 2/5<br>ns 2/5<br>nm 2/5<br>ng 1/2.5<br>ir 1/2.5<br>tb 1/2.5<br>nvc 1/2.5 |
| S9   | Fore-ground | nf  | nf  | svo 6/50<br>sv 4/33.3<br>cs 2/16.6  | svo 3/50<br>cs 2/33.3<br>sv 1/16.6  | sv 6/46.1<br>cs 4/30.7<br>svo 3/23  | sv 8/72.7<br>cs 2/18.1<br>svo 1/9                             | sv 6/50<br>cs 4/33.3<br>svo 2/16.6  | sv 11/61.1<br>cs 5/27.7<br>svo 2/11.1   | sv 11/78.5<br>cs 2/14.2<br>svo 1/7.1   | sv 5/35.7<br>svo 5/35.7<br>cs 3/21.4<br>ng 1/7.1   | sv 6/60<br>cs 2/20<br>svo 2/20  | cs 4/40<br>sv 3/30<br>svo 3/30   | svo 8/53.3<br>sv 7/46.6  | sv 15/46.8<br>svo 8/25<br>cs 7/21.8<br>ng 2/6.2  |

| Subj | DF          | ES   | T1 | T2  | T3  | T4  | T5   | T6  | T7  | T8  | T9  | T10  | T11  | T12   | T13  | T14 |
|------|-------------|--|----|---|---|---|--|---|---|---|---|--|--|---|--|-----|
| S9   | Back-ground | sv 3/30<br>cs 3/30<br>svo 2/20<br>ng 2/20                      | nb | svo 6/50<br>cs 3/25<br>sv 1/8.3<br>lv 1/8.3<br>ng 1/8.3 | cs 6/28.5<br>lv 5/23.8<br>sv 4/19<br>ng 3/14.2<br>svo 2/9.5<br>tb 1/4.7 | svo 6/20<br>sv 5/16.6<br>cs 5/16.6<br>lv 5/16.6<br>ng 2/6.6<br>ir 2/6.6<br>tb 2/6.6<br>ip 1/3.3<br>ic 1/3.3<br>ns 1/3.3 | sv 12/35.2<br>cs 9/26.4<br>lv 5/14.7<br>ir 3/8.8<br>tb 2/5.8<br>rq 2/5.8<br>ng 1/2.9 | svo 5/21.7<br>cs 5/21.7<br>sv 4/17.3<br>ng 3/13<br>ip 2/8.7<br>ir 2/8.7<br>lv 1/4.3<br>tb 1/4.3 | sv 11/35.4<br>lv 10/32.2<br>tb 3/9.6<br>cs 2/6.4<br>ng 2/6.4<br>ir 2/6.4<br>svo 1/3.2   | sv 13/39.3<br>svo 6/18.1<br>cs 5/15.1<br>ng 5/15.1<br>ic 2/6<br>ir 1/3<br>nvc 1/3 | svo 9/25<br>sv 8/22.2<br>cs 4/11.1<br>lv 4/11.1<br>ng 3/8.3<br>ir 3/8.3<br>tb 2/5.5<br>rq 1/2.7<br>ic 1/2.7<br>ns 1/2.7 | sv 5/27.7<br>cs 4/22.2<br>svo 3/16.6<br>lv 2/11.1<br>ng 2/11.1<br>tb 1/5.5<br>ip 1/5.5 | sv 10/32.2<br>cs 7/22.5<br>svo 6/19.3<br>lv 5/16.1<br>ng 1/3.2<br>pv 1/3.2<br>tb 1/3.2 | cs 12/36.3<br>lv 5/15.1<br>ng 5/15.1<br>sv 4/12.1<br>svo 4/12.1<br>tb 2/6<br>pv 1/3 | cs 9/26.4<br>ir 8/23.5<br>sv 5/14.7<br>svo 5/14.7<br>lv 4/11.7<br>ng 2/5.8<br>tb 1/2.9           |     |
|      |             |  |    |   |   |   |  |   |   |   |   |  |  |   |  |     |
| S10  | Fore-ground | nf   | nf | sv 2/33.3<br>svo 2/33.3<br>cs 1/16.6<br>ng 1/16.6       | cs 1/50<br>svo 1/50   | sv 4/57.1<br>svo 2/28.5<br>ng 1/14.2  | cs 5/41.6<br>sv 4/33.3<br>svo 3/25   | nf  | svo 3/100   | nf  | nf  | svo 3/42.8<br>sv 2/28.5<br>cs 2/28.5   | nf   | nf  | sv 7/87.5<br>svo 1/12.5  |     |
|      | Back-ground | svo 2/28.5<br>lv 2/28.5<br>cs 1/14.2<br>sv 1/14.2<br>ng 1/14.2 | nb | lv 5/35.7<br>svo 4/28.5<br>cs 2/21.4<br>sv 2/14.2       | cs 4/33.3<br>sv 3/25<br>svo 2/16.6<br>lv 2/16.6<br>tb 1/8.3             | sv 8/33.3<br>lv 5/20.8<br>cs 4/16.6<br>ng 4/16.6<br>svo 3/12.5  | svo 4/28.5<br>cs 3/21.4<br>sv 2/14.2<br>lv 2/14.2<br>ng 2/14.2<br>rq 1/7.1           | sv 9/43.7<br>svo 3/15.7<br>cs 3/15.7<br>lv 2/10.5<br>pv 2/10.5                                  | sv 11/40.7<br>svo 6/22.2<br>ng 4/14.8<br>lv 3/11.1<br>cs 1/3.7<br>pv 1/3.7<br>nvc 1/3.7 | cs 5/38.3<br>svo 4/30.7<br>sv 2/15.3<br>ng 1/7.6<br>pv 1/7.6                      | sv 3/25<br>cs 2/16.6<br>svo 2/16.6<br>lv 2/16.6<br>ng 2/16.6<br>ic 1/8.3  | svo 6/54.5<br>sv 2/18.1<br>pv 2/18.1<br>cs 1/9   | svo 9/52.9<br>sv 4/23.5<br>lv 2/11.7<br>cs 1/5.8<br>nvc 1/5.8                          | svo 9/31<br>sv 8/27.5<br>cs 7/24.1<br>lv 4/13.7<br>pv 1/3.4                         | sv 11/40.7<br>cs 7/25.9<br>svo 2/7.4<br>lv 2/7.4<br>ng 2/7.4<br>ir 1/3.7<br>tb 1/3.7<br>nm 1/3.7 |     |
| S11  | Fore-ground | cs 2/100   | nf | nf  | nf  | svo 8/47<br>sv 5/29.4<br>cs 4/23.5  | sv 6/37.5<br>cs 5/31.2<br>svo 3/18.7<br>ic 2/12.5                                    | sv 8/36.3<br>cs 8/36.3<br>svo 4/18.1<br>ic 2/9  | cs 7/36.7<br>svo 6/31.5<br>sv 4/21<br>nm 2/10.5   | cs 6/40<br>sv 5/33.3<br>svo 3/20<br>nm 1/6.6                                      | sv 11/37.9<br>svo 9/31<br>cs 9/31   | cs 3/42.8<br>sv 2/28.5<br>svo 2/28.5   | cs 8/66.6<br>sv 3/25<br>svo 1/8.3  | svo 5/62.5<br>cs 2/25<br>sv 1/12.5  | cs 6/42.8<br>svo 5/35.7<br>sv 2/14.2<br>nm 1/7.1   |     |

| Subj. | DF          | ES | (#/%)  |   |  |  |   |  |   |  |  |   |   |  |   |  |
|-------|-------------|----|--|---|--|--|---|--|---|--|--|---|---|--|---|--|
|       |             |    | T1   | T2  | T3   | T4   | T5  | T6   | T7  | T8   | T9   | T10   | T11   | T12  | T13   | T14  |
| S11   | Back-ground |    | cs 12/52.2<br>sv 3/13<br>svo 2/8.7<br>lv 2/8.7<br>ip 1/4.3<br>rq 1/4.3<br>ic 1/4.3<br>ns 1/4.3 | nb  | cs 18/41.8<br>svo 7/16.2<br>lv 6/13.9<br>ng 5/11.6<br>sv 2/4.6<br>pv 2/4.6<br>nm 2/4.6<br>ic 1/2.3 | cs 9/34.6<br>sv 4/15.4<br>svo 4/15.4<br>lv 3/11.5<br>ng 3/11.5<br>pv 1/3.8<br>ic 1/3.8<br>nm 1/3.8 | cs 11/34.3<br>sv 8/25<br>svo 8/25<br>lv 3/9.3<br>ic 1/3.1<br>ns 1/3.1                             | cs 26/42.6<br>sv 12/19.6<br>svo 12/19.6<br>lv 7/11.4<br>nm 2/3.2<br>ng 1/1.6<br>ip 1/1.6 | cs 9/23.6<br>sv 7/18.4<br>svo 7/18.4<br>lv 7/18.4<br>ip 4/10.5<br>co 2/0.52<br>pv 1/0.26<br>nm 1/0.26 | lv 15/23.8<br>cs 14/22.2<br>svo 12/19<br>sv 4/13.3<br>lv 4/13.3<br>ic 5/7.9<br>ng 3/4.7<br>pv 3/4.7<br>ir 1/1.6<br>nm 1/1.6<br>nvc 1/1.6 | svo 9/30<br>cs 5/16.6<br>svo 5/16.6<br>lv 4/13.3<br>sv 3/10<br>ng 3/10<br>ic 3/10<br>el 1/3.3<br>nvc 1/3.3 | cs 11/36.6<br>svo 5/16.6<br>lv 4/13.3<br>sv 3/10<br>ic 3/8.8<br>pv 1/2.9<br>tb 1/2.9<br>nvc 1/2.9 | cs 13/38.1<br>sv 6/17.6<br>lv 5/14.7<br>svo 4/11.7<br>ic 3/8.8<br>pv 1/2.9<br>tb 1/2.9<br>nvc 1/2.9 | cs 9/33.3<br>sv 7/25.9<br>svo 6/22.2<br>lv 2/7.4<br>ng 2/7.4<br>ic 1/3.7                                       | cs 9/36<br>sv 7/28<br>svo 4/16<br>ng 2/8<br>lv 1/4<br>ic 1/4<br>nm 1/4              | cs 18/38.2<br>svo 13/27.6<br>sv 5/10.6<br>ng 5/10.6<br>lv 3/6.3<br>pv 2/4.2<br>tb 1/2.1                  |
| S12   | Fore-ground |    | nf   | nf  | svo 4/66.6<br>sv 1/16.6<br>ng 1/16.6   | nf   | nf  | svo 4/57.1<br>sv 2/28.5<br>cs 1/14.2   | nf  | nf   | sv 1/50<br>cs 1/50   | nf  | sv 1/33.3<br>svo 1/33.3<br>cs 1/33.3  | svo 1/100  | nf  | svo 2/66.6<br>sv 1/33.3  |
|       | Back-ground |    | cs 3/33.3<br>lv 3/33.3<br>sv 2/22.2<br>svo 1/11.1  | nb  | sv 4/26.6<br>ng 4/26.6<br>cs 2/13.3<br>svo 2/13.3<br>lv 1/6.6<br>ir 1/6.6<br>nm 1/6.6              | svo 5/35.7<br>cs 4/28.5<br>sv 3/21.4<br>lv 1/7.1<br>ng 1/7.1                                       | svo 10/37<br>cs 7/25.9<br>lv 5/18.5<br>sv 3/11.1<br>ir 2/7.4                                      | svo 5/45.4<br>cs 2/18.1<br>sv 2/18.1<br>tb 1/9<br>nm 1/9                                 | cs 7/30.4<br>lv 6/26<br>sv 6/26<br>svo 2/8.6<br>ng 2/8.6  | svo 8/38<br>lv 5/23.8<br>cs 3/14.2<br>sv 2/9.5<br>pv 2/9.5<br>ng 1/4.7   | svo 5/27.7<br>sv 3/16.6<br>cs 3/16.6<br>lv 3/16.6<br>ng 3/16.6<br>pv 1/5.5                                 | svo 4/26.6<br>cs 4/26.6<br>ng 3/20<br>sv 2/13.3<br>lv 1/6.6<br>nm 1/6.6                           | cs 7/38.8<br>svo 4/22.2<br>lv 4/22.2<br>sv 2/11.1<br>ng 1/5.5                                       | cs 7/36.8<br>svo 7/36.8<br>sv 3/15.7<br>lv 1/5.2<br>ng 1/5.2   | svo 7/43.7<br>cs 5/31.2<br>lv 2/12.5<br>sv 1/6.2<br>ng 1/6.2                        | sb 11/40.7<br>lv 7/25.9<br>svo 4/14.8<br>sv 3/11.1<br>ng 1/3.7<br>osv 1/3.7                              |
| S13   | Fore-ground |    | nf   | sv 3/100  | nf   | svo 2/66.6<br>sv 1/33.3  | sv 6/60<br>cs 2/20<br>svo 2/20  | svo 3/100  | sv 4/66.6<br>svo 1/16.6<br>cs 1/16.6  | cs 1/50<br>svo 1/50  | nf   | nf  | sv 7/63.6<br>svo 2/18.1<br>cs 2/18.1  | sv 1/50<br>ng 1/50   | svo 2/50<br>sv 1/25<br>cs 1/25  | sv 2/66.6<br>svo 1/33.3  |
|       | Back-ground |    | lv 2/40<br>sv 1/20<br>pv 1/20<br>ic 1/20   | svo 10/31.2<br>sv 7/21.8<br>lv 5/15.6<br>ng 3/9.3<br>cs 3/9.3<br>tb 2/6.2<br>pv 1/3.1<br>ic 1/3.1 | lv 5/23.8<br>cs 5/23.8<br>ng 4/19<br>svo 3/14.2<br>tb 2/9.5<br>pv 1/4.7<br>ic 1/4.7                | sv 7/50<br>ng 4/28.5<br>lv 2/14.2<br>svo 1/7.1   | svo 8/23.5<br>sv 7/20.6<br>lv 7/20.6<br>cs 5/14.7<br>ng 3/8.8<br>ir 2/5.8<br>pv 1/2.9<br>rq 1/2.9 | sv 6/42.8<br>lv 5/35.7<br>cs 2/14.2<br>ic 1/7.1  | cs 8/42<br>sv 4/21<br>tb 3/15.7<br>svo 1/5.2<br>lv 1/5.2<br>ng 1/5.2<br>ip 1/5.2                      | svo 5/31.2<br>cs 3/18.7<br>lv 3/18.7<br>pv 2/12.5<br>sv 1/6.2<br>tb 1/6.2<br>osv 1/6.2   | lv 13/39.3<br>sv 10/30.3<br>cs 4/12.1<br>svo 3/9<br>ng 3/9   | sv 4/44.4<br>cs 1/11.1<br>svo 1/11.1<br>ic 1/11.1<br>ns 1/11.1<br>nvc 1/11.1                      | sv 9/25.7<br>cs 8/22.8<br>svo 6/17.1<br>lv 6/17.1<br>ng 2/5.7<br>ip 2/5.7<br>tb 1/2.8<br>nm 1/2.8   | cs 13/36.1<br>svo 6/16.6<br>tb 6/16.6<br>ng 3/8.3<br>ic 3/8.3<br>lv 2/5.5<br>sv 1/2.8<br>osv 1/2.8<br>nm 1/2.8 | svo 9/29<br>sv 6/19.3<br>lv 6/19.3<br>cs 5/16.1<br>ng 2/6.4<br>tb 2/6.4<br>ic 1/3.2 | svo 19/38.7<br>sv 9/18.3<br>tb 5/10.2<br>lv 4/8.1<br>ng 4/8.1<br>cs 4/8.1<br>nvc 2/4<br>pv 1/2<br>ic 1/2 |

| Subj | DF          | ES  | (H%)   |   |  |   |   |  |   |  |   |   |   |  |   |
|------|-------------|---|--|---|--|---|---|--|---|--|---|---|---|--|---|
|      |             |   | T1   | T2  | T3   | T4  | T5  | T6   | T7  | T8   | T9  | T10   | T11   | T12  | T13   |
| S14  | Fore-ground | nf  | sv 6/42.8<br>svo 4/28.5<br>cs 3/21.3<br>nvc 1/7.1                        | sv 5/41.6<br>svo 4/33.3<br>cs 3/25  | svo 3/50<br>sv 2/33.3<br>cs 1/16.6   | svo 3/60<br>sv 2/40   | sv 4/44.4<br>svo 4/44.4<br>cs 1/11.1  | cs 4/44.4<br>sv 2/22.2<br>svo 1/11.1<br>ng 1/11.1<br>nm 1/11.1           | nf  | cs 3/50<br>svo 3/50  | nf  | sv 3/100  | sv 2/33.3<br>cs 2/33.3<br>svo 2/33.3  | sv 4/66.6<br>cs 2/33.3   | sv 1/100  |
|      | Back-ground | cs 4/44.4<br>sv 2/22.2<br>svo 1/11.1<br>nm 1/11.1<br>nvc 1/11.1 | svo 4/33.3<br>cs 3/24.9<br>sv 2/16.6<br>lv 1/8.3<br>tb 1/8.3<br>ic 1/8.3 | cs 4/33.3<br>lv 4/33.3<br>sv 3/25<br>ng 1/8.3   | cs 6/31.5<br>sv 5/26.3<br>svo 5/26.3<br>lv 3/15.7  | sv 9/37.5<br>lv 6/25<br>cs 5/20.8<br>svo 2/8.3<br>ng 1/4.1<br>ic 1/4.1                        | cs 15/39.4<br>sv 11/28.9<br>svo 4/10.5<br>ng 3/7.8<br>tb 2/5.2<br>pv 1/2.6<br>ic 1/2.6<br>ns 1/2.6        | cs 11/52.3<br>lv 5/23.8<br>sv 5/15.1<br>lv 4/12.1<br>sv 2/9.5            | cs 11/33.3<br>svo 7/21.2<br>sv 5/15.1<br>lv 4/12.1<br>tb 2/6<br>ic 2/6<br>ng 1/3<br>nvc 1/3 | cs 10/41.6<br>svo 7/29.1<br>sv 4/16.6<br>lv 3/12.5                                       | svo 13/44.8<br>sv 5/17.2<br>cs 5/17.2<br>lv 5/17.2<br>ns 1/3.4  | cs 9/28.1<br>svo 9/28.1<br>sv 7/21.8<br>lv 7/21.8   | cs 12/27.8<br>lv 10/23.2<br>sv 8/18.6<br>svo 7/16.2<br>tb 2/4.6<br>ng 1/2.3<br>pv 1/2.3<br>ns 1/2.3<br>nm 1/2.3 | svo 11/26.1<br>cs 10/23.8<br>sv 8/19<br>lv 7/16.6<br>nvc 2/4.8<br>ng 1/2.4<br>pv 1/2.4<br>tb 1/2.4<br>ic 1/2.4 | lv 22/42.3<br>sv 11/21.1<br>svo 7/13.4<br>cs 5/9.5<br>pv 2/3.8<br>nvc 2/3.8<br>ng 1/1.9<br>tb 1/1.9<br>cs 1/1.9 |
| S15  | Fore-ground | sv 3/50<br>cs 2/33.3<br>svo 1/16.6                              | sv 1/50<br>svo 1/50  | sv 2/50<br>ng 1/25<br>cs 1/25   | sv 8/53.3<br>cs 4/26.6<br>svo 3/20   | sv 16/61.5<br>svo 5/19.2<br>cs 3/11.5<br>ng 2/7.6   | sv 17/68<br>svo 5/20<br>cs 3/12   | nf   | sv 8/61.5<br>svo 3/23<br>cs 2/15.3  | sv 7/43.7<br>svo 5/31.2<br>cs 4/25   | cs 11/52.3<br>sv 5/23.8<br>svo 4/19<br>ng 1/4.7   | cs 4/57.1<br>sv 3/42.8  | sv 12/44.4<br>svo 9/33.3<br>cs 6/22.2   | svo 6/42.8<br>sv 5/35.7<br>cs 3/21.3   | sv 10/52.6<br>cs 4/21<br>svo 4/21<br>nm 1/5.2   |
|      | Back-ground | sv 6/50<br>cs 3/24.9<br>lv 2/16.6<br>ng 1/8.3                   | cs 5/41.6<br>svo 4/33.3<br>ic 2/16.6<br>sv 1/8.3                         | sv 5/20<br>cs 5/20<br>svo 3/12<br>lv 3/12<br>ir 3/12<br>ng 2/8<br>ic 2/8<br>ns 1/4<br>nvc 1/4 | sv 7/21.2<br>svo 7/21.2<br>lv 7/21.2<br>cs 4/12.1<br>ng 3/9<br>tb 2/6<br>ir 1/3<br>ip 1/3<br>nvc 1/3 | svo 13/26.5<br>lv 12/24.5<br>cs 9/18.3<br>sv 8/16.3<br>ir 3/6.1<br>tb 2/4<br>ng 1/2<br>ip 1/2 | lv 14/28.5<br>svo 13/26.5<br>sv 9/18.3<br>ng 4/8.1<br>cs 3/6.1<br>tb 3/6.1<br>ir 1/2<br>ip 1/2<br>nvc 1/2 | cs 18/40<br>sv 8/17.7<br>lv 7/15.5<br>svo 7/15.5<br>ng 4/8.8<br>rq 1/2.2 | sv 12/27.2<br>lv 9/20.4<br>cs 8/18.1<br>svo 8/18.1<br>ng 5/11.3<br>tb 1/2.2<br>rq 1/2.2     | sv 15/35.7<br>cs 11/26.1<br>lv 5/11.9<br>ng 5/11.9<br>svo 4/9.5<br>ip 1/2.3<br>nvc 1/2.3 | lv 10/24.3<br>cs 10/24.3<br>sv 7/17.1<br>svo 5/12.1<br>ng 4/9.8<br>ic 2/4.9<br>tb 1/2.4<br>ir 1/2.4<br>pv 1/2.4 | sv 13/23.6<br>cs 12/21.8<br>lv 11/20<br>svo 7/12.7<br>ng 6/10.9<br>ip 4/7.2<br>tb 1/1.8<br>ic 1/1.8 | sv 15/30<br>svo 11/22<br>cs 10/20<br>lv 8/16<br>ng 4/8<br>pv 1/2<br>rq 1/2                                      | sv 11/25<br>cs 10/22.7<br>lv 10/22.7<br>svo 8/18.1<br>nvc 2/4.5<br>ng 1/2.2<br>pv 1/2.2<br>el 1/2.2            | cs 20/36.9<br>lv 10/18.5<br>sv 8/14.8<br>svo 7/12.9<br>ng 5/9.2<br>tb 4/7.4                                     |
| S16  | Fore-ground | svo 4/50<br>cs 3/37.5<br>sv 1/12.5                              | cs 5/45.4<br>sv 4/36.3<br>svo 1/9  | cs 3/100  | cs 6/85.7<br>svo 1/14.2  | sv 8/40<br>svo 8/40<br>cs 3/15<br>co 1/5  | cs 4/44.4<br>sv 2/22.2<br>svo 2/22.2<br>ng 1/11   | sv 2/28.5<br>cs 2/28.5<br>svo 1/14.2<br>ng 1/14.2<br>nm 1/14.2           | sv 5/62.5<br>cs 2/25<br>ic 1/12.5   | sv 7/38.8<br>cs 7/38.8<br>svo 3/16.6<br>ng 1/5.5   | cs 8/53.3<br>sv 5/33.3<br>svo 2/13.3  | nf  | nf  | nf   | cs 5/50<br>sv 4/40<br>ic 1/10   |

| Subj. | DF          | ES (#/%)  |  |   |  |   |   |  |   |  |  |  |  |   |  |
|-------|-------------|---|--|---|--|---|---|--|---|--|--|--|--|---|--|
|       |             | T1  | T2   | T3  | T4   | T5  | T6  | T7   | T8  | T9   | T10  | T11  | T12  | T13   | T14  |
| S16   | Back-ground | svo 4/30.7<br>cs 3/23<br>lv 3/23<br>ng 1/7.6<br>el 1/7.6<br>nvc 1/7.6 | cs 12/37.4<br>svo 11/34.3<br>lv 6/18.7<br>sv 2/6.2<br>ic 1/3.1 | cs 7/46.6<br>svo 3/20<br>lv 3/13.3<br>ng 3/13.3<br>sv 1/6.6                     | cs 9/40.9<br>sv 5/22.7<br>lv 3/13.6<br>svo 2/9<br>nvc 2/9<br>ng 1/4.5              | cs 10/28.5<br>sv 7/20<br>ng 6/17.1<br>svo 5/14.2<br>lv 4/11.4<br>tb 2/5.7<br>el 1/2.8 | cs 10/41.6<br>sv 5/20.8<br>svo 3/12.5<br>lv 3/12.5<br>ng 1/4.1<br>pv 1/4.1<br>el 1/4.1            | cs 12/46.1<br>svo 6/23<br>ir 4/15.3<br>sv 1/3.8<br>rq 1/3.8<br>ns 1/3.8<br>nvc 1/3.8 | cs 9/37.5<br>sv 4/16.6<br>lv 3/12.5<br>svo 2/8.3<br>ng 2/8.3<br>tb 2/8.3<br>pv 1/4.1<br>rq 1/4.1<br>nm 1/4<br>nvc 1/4 | cs 7/28<br>sv 5/20<br>svo 4/16<br>lv 4/16<br>ir 1/4<br>tb 1/4<br>rq 1/4<br>nm 1/4<br>nvc 1/4                 | svo 5/25<br>cs 4/20<br>sv 3/15<br>lv 3/15<br>ng 2/10<br>ir 2/10<br>nvc 1/5 | nb   | cs 28/56<br>svo 11/22<br>lv 4/8<br>ng 4/8<br>sv 2/4<br>nvc 1/2                                   | cs 15/50<br>sv 6/20<br>svo 5/16.6<br>lv 2/6.6<br>nvc 2/6.6                          | cs 10/28.5<br>svo 7/20<br>lv 6/17.1<br>sv 4/11.4<br>pv 3/8.5<br>ic 2/5.7<br>ns 2/5.7<br>nvc 1/2.8                            |
| S17   | Fore-ground | sv 3/42.8<br>cs 3/42.8<br>ng 1/14.2                                   | cs 4/50<br>sv 2/25<br>svo 2/25                                 | svo 4/80<br>sv 1/20   | sv 4/36.4<br>cs 4/36.4<br>svo 3/27.2   | cs 5/38.4<br>sv 4/30.7<br>svo 4/30.7  | sv 5/41.6<br>cs 4/33.3<br>svo 2/16.6<br>ng 1/8.3  | cs 7/43.7<br>svo 6/37.5<br>sv 3/18.7   | sv 3/30<br>cs 3/30<br>svo 3/30<br>ng 1/10   | svo 4/50<br>sv 2/25<br>cs 2/25   | sv 5/35.7<br>svo 5/35.7<br>cs 2/14.2<br>ng 1/7.1<br>ic 1/7.1               | cs 4/66.6<br>sv 1/16.6<br>svo 1/16.6                                   | sv 12/48<br>cs 8/32<br>svo 5/20  | cs 7/43.7<br>svo 5/31.2<br>sv 4/25  | cs 9/60<br>sv 3/20<br>svo 2/13.3<br>nvc 1/6.6  |
|       |             | sv 5/83.3<br>ng 1/16.6  | cs 8/40<br>sv 6/30<br>svo 3/15<br>lv 1/5<br>ir 1/5<br>el 1/5   | lv 6/30<br>cs 5/25<br>svo 4/20<br>sv 2/10<br>ng 1/5<br>ic 1/5<br>nvc 1/5        | cs 10/43.4<br>svo 4/17.3<br>sv 3/13<br>lv 3/13<br>ir 1/4.3<br>tb 1/4.3<br>ic 1/4.3 | cs 11/42.2<br>sv 6/23<br>ng 4/15.3<br>lv 3/11.5<br>svo 1/3.8<br>pv 1/3.8              | cs 11/35.4<br>svo 6/19.3<br>sv 5/16.1<br>lv 3/9.6<br>ng 3/9.6<br>tb 1/3.2<br>rq 1/3.2<br>cs 1/3.2 | cs 9/39.1<br>sv 6/26<br>ng 3/13<br>lv 2/8.6<br>svo 1/4.3<br>ir 1/4.3<br>el 1/4.3     | cs 6/27.2<br>svo 5/22.7<br>sv 4/18.1<br>lv 4/18.1<br>ng 1/4.5<br>pv 1/4.5<br>el 1/4.5                                 | cs 9/37.4<br>lv 4/16.6<br>ng 4/16.6<br>svo 3/12.5<br>lv 3/10<br>ng 2/6.6<br>tb 1/3.3<br>ic 1/3.3<br>ns 1/3.3 | cs 9/30<br>svo 8/26.6<br>sv 5/16.6<br>lv 3/10<br>ng 2/10<br>pv 1/5         | sv 5/25<br>svo 5/25<br>cs 5/25<br>lv 2/10<br>ng 2/10<br>pv 1/5         | sv 6/24<br>lv 6/24<br>cs 6/24<br>ng 5/20<br>ir 1/4<br>nvc 1/4                                    | ng 4/26.6<br>cs 3/20<br>lv 3/20<br>sv 2/13.3<br>svo 2/13.3<br>nm 1/6.6              | cs 11/35.4<br>sv 5/16.1<br>svo 4/12.9<br>tb 3/9.6<br>lv 2/6.4<br>ng 2/6.4<br>pv 2/6.4<br>ic 1/3.2<br>nvc 1/3.2               |
|       | Fore-ground | cs 1/100  | nf   | svo 4/57.1<br>sv 2/28.5<br>cs 1/14.2  | nf   | nf  | svo 2/66.6<br>cs 1/33.3   | svo 6/50<br>sv 3/25<br>cs 1/8.3<br>ng 1/8.3<br>pv 1/8.3                              | nf  | nf   | nf   | sv 4/66.6<br>cs 1/16.6<br>svo 1/16.6                                   | sv 5/71.4<br>svo 2/28.5  | cs 9/60<br>sv 2/13.3<br>svo 2/13.3<br>ng 1/6.6<br>nvc 1/6.6                         | sv 7/58.3<br>svo 3/25<br>cs 1/8.3<br>ic 1/8.3  |
|       | Back-ground | svo 4/66.6<br>sv 1/16.6<br>lv 1/16.6                                  | lv 4/33.3<br>cs 3/25<br>svo 3/25<br>sv 1/8.3<br>pv 1/8.3       | cs 8/36.4<br>sv 5/22.7<br>lv 3/13.6<br>tb 2/9<br>ic 2/9<br>ng 1/4.5<br>pv 1/4.5 | sv 8/32<br>svo 5/20<br>cs 4/16<br>lv 3/12<br>ng 2/8<br>pv 2/8<br>ic 1/4            | sv 7/36.8<br>svo 5/26.3<br>cs 5/26.3<br>lv 2/10.5                                     | lv 7/29.1<br>cs 6/24.9<br>sv 5/20.8<br>svo 5/20.8<br>ng 1/4.1                                     | lv 7/35<br>svo 5/25<br>sv 4/20<br>cs 2/10<br>ir 1/5<br>rq 1/5                        | svo 9/31<br>cs 9/31<br>lv 4/13.7<br>sv 2/6.8<br>nvc 2/6.8<br>pv 1/3.4<br>tb 1/3.4<br>nm 1/3.4                         | cs 9/32.1<br>sv 5/17.8<br>svo 4/14.2<br>lv 4/14.2<br>tb 3/10.7<br>ng 2/7.1<br>ns 1/3.5                       | svo 5/41.6<br>cs 2/16.6<br>sv 2/16.6<br>ng 2/16.6<br>ic 1/8.3              | cs 13/36<br>sv 9/25<br>svo 7/19.4<br>lv 5/13.8<br>ng 1/2.7<br>ic 1/2.7 | sv 9/31<br>svo 7/24.1<br>cs 6/20.6<br>lv 3/10.3<br>ng 1/3.4<br>rq 1/3.4<br>ns 1/3.4<br>nvc 1/3.4 | lv 8/34.7<br>cs 7/30.4<br>sv 3/13<br>nvc 2/8.6<br>svo 1/4.3<br>ir 1/4.3<br>ic 1/4.3 | svo 10/26.3<br>cs 10/26.3<br>sv 6/15.7<br>lv 5/13.1<br>ns 2/5.2<br>ng 1/2.6<br>pv 1/2.6<br>tb 1/2.6<br>ic 1/2.6<br>nvc 1/2.6 |



| Subj. | DF          | ES | T1   | T2  | T3   | T4  | T5   | T6   | T7   | T8   | T9   | T10  | T11  | T12   | T13  | T14  | (#/%) |
|-------|-------------|----|--|---|--|---|--|--|--|--|--|--|--|---|--|--|-------|
| S19   | Fore-ground |    | svo 2/66.6<br>sv 1/33.3  | nf  | nf   | nf  | sv 14/77.7<br>cs 2/11.1<br>svo 2/11.1  | sv 9/69.2<br>cs 3/23<br>nm 1/7.6   | svo 7/57.1<br>sv 2/28.5<br>ic 1/14.2   | nf   | sv 3/33.3<br>cs 3/33.3<br>svo 3/33.3   | sv 8/57.1<br>cs 3/21.4<br>svo 3/21.4   | cs 2/50<br>sv 1/25<br>svo 1/25   | nf  | sv 3/37.5<br>svo 3/37.5<br>cs 2/25   | cs 4/36.3<br>sv 3/27.2<br>ic 2/18.1<br>svo 1/9<br>nvc 1/9              |       |
|       | Back-ground |    | sv 4/30.7<br>svo 4/30.7<br>lv 2/15.3<br>cs 1/7.6<br>ng 1/7.6<br>pv 1/7.6 | cs 7/38.8<br>svo 3/16.6<br>lv 3/16.6<br>sv 2/11.1<br>ic 2/11.1<br>nvc 1/5.5 | cs 6/28.5<br>sv 5/23.8<br>svo 4/19<br>lv 4/19<br>ng 2/9.5                  | sv 7/31.8<br>tb 4/18.1<br>cs 4/18.1<br>svo 3/13.6<br>lv 2/9<br>ng 2/9 | lv 10/25.6<br>cs 8/20.4<br>sv 7/17.9<br>svo 5/12.8<br>ng 4/10.2<br>ic 2/5.1<br>tb 1/2.5<br>rq 1/2.5<br>osv 1/2.5 | lv 16/26.2<br>svo 14/22.9<br>cs 8/13.1<br>sv 6/9.8<br>tb 5/8.1<br>ir 4/6.5<br>ns 3/4.9<br>ng 2/3.2<br>pv 2/3.2<br>nm 1/1.6 | svo 12/24<br>cs 11/22<br>lv 10/20<br>sv 8/16<br>svo 4/13.3<br>pv 2/6.6<br>ng 1/3.3<br>tb 1/3.3 | cs 12/40<br>sv 5/16.6<br>lv 5/16.6<br>svo 4/13.3<br>pv 2/6.6<br>ng 1/3.3<br>tb 1/3.3 | cs 14/41.1<br>sv 5/14.7<br>lv 5/14.7<br>svo 4/11.7<br>sv 3/9.6<br>ng 2/6.9<br>ir 1/3.2<br>pv 1/3.2<br>ip 1/3.2 | lv 12/33.3<br>svo 9/25<br>tb 5/13.8<br>sv 4/11.1<br>cs 4/11.1<br>pv 2/0.55             | cs 12/30<br>lv 8/20<br>tb 8/20<br>svo 6/15<br>sv 5/12.5<br>ng 1/2.5                                  | sv 8/20<br>cs 7/17.5<br>lv 7/17.5<br>svo 6/15<br>ng 6/15<br>ic 2/5<br>nvc 2/5<br>tb 1/2.5<br>ns 1/2.5 | cs 9/22.5<br>lv 7/17.5<br>svo 6/15<br>sv 5/12.5<br>tb 5/12.5<br>ng 4/10<br>ir 1/2.5<br>pv 1/2.5<br>ip 1/2.5<br>nvc 1/2.5 |  |       |
| S20   | Fore-ground |    | nf   | nf  | svo 3/37.5<br>sv 2/25<br>cs 2/25<br>ng 1/12.5                              | sv 2/66.6<br>svo 1/33.3   | svo 4/80<br>cs 1/20  | sv 5/35.7<br>cs 4/28.5<br>svo 4/28.5<br>nm 1/7.1   | svo 3/37.5<br>cs 3/37.5<br>sv 2/25   | sv 2/40<br>svo 2/40<br>cs 1/20   | cs 7/77.7<br>sv 1/11.1<br>ng 1/11.1  | sv 5/35.7<br>svo 5/35.7<br>cs 4/28.5   | svo 4/36.3<br>cs 4/36.3<br>sv 3/27.2   | sv 3/50<br>cs 2/33.3<br>ng 1/16.6   | cs 2/50<br>sv 1/25<br>ns 1/25  | sv 2/40<br>cs 2/40<br>svo 1/20   |       |
|       | Back-ground |    | cs 3/60<br>sv 2/40   | cs 4/44.4<br>svo 3/33.3<br>lv 2/22.2  | sv 4/23.5<br>svo 4/23.5<br>lv 4/23.5<br>cs 2/11.7<br>ng 2/11.7<br>tb 1/5.8 | svo 7/30.4<br>cs 7/30.4<br>sv 5/21.7<br>lv 4/17.3                     | lv 6/33.3<br>cs 5/27.7<br>sv 4/22.2<br>svo 3/16.6  | cs 10/43.4<br>sv 6/26.1<br>svo 3/13<br>lv 2/8.7<br>ir 2/8.7  | cs 20/46.4<br>sv 13/30.2<br>svo 3/6.9<br>lv 3/6.9<br>ic 2/4.6<br>tb 1/2.3<br>pv 1/2.3          | cs 15/45.4<br>sv 6/18.1<br>svo 6/18.1<br>lv 3/9<br>ng 2/6<br>pv 1/3                  | cs 12/57.1<br>sv 3/14.2<br>svo 3/14.2<br>lv 1/4.7<br>ng 1/4.7<br>ns 1/4.7                                      | sv 12/27.9<br>lv 9/20.9<br>cs 9/20.9<br>svo 6/13.9<br>ng 4/9.3<br>rq 2/4.6<br>ir 1/2.3 | cs 16/38.1<br>svo 13/30.9<br>sv 6/14.2<br>lv 3/7.1<br>ip 1/2.4<br>osv 1/2.4<br>nm 1/2.4<br>nvc 1/2.4 | cs 11/40.7<br>svo 7/25.9<br>sv 4/14.8<br>lv 2/7.4<br>ng 1/3.7<br>pv 1/3.7<br>nvc 1/3.7                | sv 8/27.5<br>cs 8/27.5<br>lv 7/24.1<br>svo 3/10.3<br>ng 1/3.4<br>pv 1/3.4<br>ic 1/3.4                                    | cs 13/32.5<br>lv 9/22.5<br>svo 8/20<br>sv 5/12.5<br>ic 3/7.5<br>pv 2/5 |       |

Table 22. Types of Verb used by Subjects to express Foreground and Background Information

|      |    |                    |                   |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    | (#/%)              |
|------|----|--------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Subj | DF | VT \ ES            | T1                | T2                 | T3                 | T4                 | T5                 | T6                 | T7                 | T8                 | T9                 | T10                | T11                | T12                | T13                | T14                |
| S1   | F  | dynamic<br>stative | nf                | 7/63.6<br>4/36.3   | nf                 | 2/100              | 3/60<br>2/40       | 5/100              | 4/100              | 5/83.3<br>1/16.6   | 12/100             | 2/66.6<br>1/33.3   | 9/90<br>1/10       | 4/100              | nf                 | 4/100              |
|      | B  | dynamic<br>stative | 8/44.4<br>10/55.5 | 1/14.2<br>6/85.7   | 2/16.6<br>10/83.3  | 15/68.1<br>7/31.8  | 11/50<br>11/50     | 10/38.4<br>16/61.5 | 17/45.9<br>20/54   | 25/69.4<br>11/30.5 | 23/63.8<br>13/36.1 | 12/19.6<br>49/80.3 | 20/57.1<br>15/42.8 | 19/79.1<br>5/20.8  | 10/41.6<br>14/58.3 | 15/55.5<br>12/44.4 |
| S2   | F  | dynamic<br>stative | 4/100             | 11/100             | 2/66.6<br>1/33.3   | 9/100              | 20/100             | 3/100              | 6/85.7<br>1/14.2   | 11/100             | 12/80<br>3/20      | 28/93.3<br>2/6.6   | 21/87.5<br>3/12.5  | 1/100              | 13/92.8<br>1/7.1   | 9/90<br>1/10       |
|      | B  | dynamic<br>stative | 13/65<br>7/35     | 10/66.6<br>5/33.3  | 9/52.9<br>8/47     | 19/73<br>7/26.9    | 13/61.9<br>8/38    | 9/52.9<br>8/47     | 13/81.2<br>3/18.7  | 12/52.1<br>11/47.8 | 17/73.9<br>6/26    | 21/61.7<br>13/38.2 | 16/59.2<br>11/40.7 | 30/56.6<br>23/43.3 | 30/73.1<br>11/26.8 | 20/52.8<br>18/47   |
| S3   | F  | dynamic<br>stative | 4/100             | 18/90<br>2/10      | 4/80<br>1/20       | 7/87.5<br>1/12.5   | 8/80<br>2/20       | 12/75<br>4/25      | 22/100             | 11/84.6<br>2/15.3  | 14/66.6<br>7/33.3  | 44/91.6<br>4/8.3   | 20/90.9<br>2/9     | 5/50<br>5/50       | 13/72.2<br>5/27.7  | 12/92.3<br>1/7.6   |
|      | B  | dynamic<br>stative | 13/50<br>13/50    | 22/68.7<br>10/31.2 | 10/43.4<br>13/56.5 | 35/70<br>15/30     | 30/66.6<br>15/33.3 | 30/73.1<br>11/26.8 | 23/53.4<br>20/46.5 | 48/48.9<br>50/51   | 29/52.7<br>26/47.2 | 31/67.3<br>15/32.6 | 50/69.4<br>22/30.5 | 36/52.1<br>33/47.8 | 22/68.7<br>10/31.2 | 16/59.2<br>11/40.7 |
| S4   | F  |                    | 7/70<br>3/30      | 9/81.8<br>2/18.1   | 10/90.9<br>1/9     | 14/100             | 57/89<br>7/10.9    | 30/93.7<br>2/6.2   | 25/92.5<br>2/7.4   | 8/100              | 21/77.7<br>6/22.2  | 30/85.7<br>5/14.2  | 20/83.3<br>4/16.6  | 41/87.2<br>6/12.7  | 14/82.3<br>3/17.6  | 44/86.2<br>7/13.7  |
|      | B  | dynamic<br>stative | 8/47<br>9/52.9    | 9/56.2<br>7/43.7   | 14/46.6<br>16/53.3 | 16/61.5<br>10/38.4 | 36/52.1<br>33/47.8 | 41/59.4<br>28/40.5 | 21/56.7<br>16/43.2 | 17/50<br>17/50     | 48/72.7<br>18/27.2 | 31/52.5<br>28/47.4 | 18/45<br>22/55     | 40/54.7<br>33/45.2 | 29/63<br>17/36.9   | 58/68.2<br>27/31.7 |
| S5   | F  | dynamic<br>stative | nf                | 12/92.3<br>1/7.6   | 11/91.6<br>1/8.3   | 4/100              | 4/100              | 5/83.3<br>1/16.6   | 13/86.6<br>2/13.3  | 16/100             | 8/100              | 7/100              | 15/93.7<br>1/6.2   | nf                 | 20/90.9<br>2/9     | 16/76.1<br>5/23.8  |
|      | B  | dynamic<br>stative | 5/31.2<br>11/68.7 | 7/53.8<br>6/46.1   | 18/51.4<br>17/48.5 | 9/69.2<br>4/30.7   | 17/60.7<br>11/39.2 | 13/54.1<br>11/45.8 | 7/77.7<br>2/22.2   | 8/53.3<br>7/46.6   | 4/50<br>4/50       | 5/45.4<br>6/54.5   | 8/44.4<br>10/55.5  | 6/54.5<br>5/45.4   | 19/61.2<br>12/38.7 | 18/66.6<br>9/33.3  |

Legend: Subj. = subject; DF = discourse function; F = foreground; B = background; VT = verb type; ES = elicitation session; T1, T2, etc. = the first elicitation session, the second elicitation session, etc.; nf = no foreground information; nb = no background information; #/% = the number of instances the particular verb type were used/percentage expressed in decimal of the number in the total of instances of both types of verb used to express the particular type of information.

|      |    |         |         |         |         |         |         |         |         |         |         |         |         |         |         | (#/%)   |
|------|----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Subj | DF | VT \ ES | T1      | T2      | T3      | T4      | T5      | T6      | T7      | T8      | T9      | T10     | T11     | T12     | T13     | T14     |
| S6   | F  | dynamic | nf      | 9/90    | nf      | 5/83.3  | 13/92.8 | 27/96.4 | 10/66.6 | 5/100   | nf      | 18/90   | 25/89.2 | 15/83.3 | 10/83.3 | 9/81.8  |
|      |    | stative |         | 1/10    |         | 1/16.6  | 1/7.1   | 1/3.5   | 5/33.3  |         |         | 2/10    | 3/10.7  | 3/16.6  | 2/16.6  | 2/18.1  |
|      | B  | dynamic | 11/73.3 | 10/55.5 | 9/50    | 12/57.1 | 16/69.5 | 14/48.2 | 32/65.3 | 27/67.5 | 28/80   | 7/53.8  | 14/77.7 | 13/72.2 | 16/57.1 | 22/59.4 |
|      |    | stative | 4/26.6  | 8/44.4  | 9/50    | 9/42.8  | 7/30.4  | 15/51.7 | 17/34.6 | 13/32.5 | 7/20    | 6/46.1  | 4/22.2  | 5/27.7  | 12/42.8 | 15/40.5 |
| S7   | F  | dynamic | 7/100   | 15/93.7 | 23/100  | 4/100   | 10/76.9 | 1/100   | 16/88.8 | 16/88.8 | 30/76.9 | 24/96   | 22/91.6 | 23/85.1 | 13/86.6 | 21/84   |
|      |    | stative |         | 1/6.2   |         |         | 3/23    |         | 2/11.1  | 2/11.1  | 9/23    | 1/4     | 2/8.3   | 4/14.8  | 2/13.3  | 4/16    |
|      | B  | dynamic | 7/53.8  | 22/50   | 22/70.9 | 12/75   | 25/59.5 | 18/60   | 21/56.7 | 24/61.5 | 22/44.8 | 28/50   | 23/50   | 29/53.7 | 32/62.7 | 17/42.5 |
|      |    | stative | 6/46.1  | 22/50   | 9/29    | 4/25    | 17/40.4 | 12/40   | 16/43.2 | 15/38.4 | 27/55.1 | 28/50   | 23/50   | 25/46.2 | 19/37.2 | 23/57.4 |
| S8   | F  | dynamic | nf      | 14/77.7 | 15/75   | 7/87.5  | nf      | 9/81.8  | 13/76.4 | 18/85.7 | 12/100  | 2/100   | 10/83.3 | 7/87.5  | 17/94.4 | 21/87.5 |
|      |    | stative |         | 4/22.2  | 5/25    | 1/12.5  |         | 2/18.1  | 4/23.5  | 3/14.2  |         |         | 2/16.6  | 1/12.5  | 1/0.55  | 3/12.5  |
|      | B  | dynamic | 5/71.4  | 14/50   | 8/57.1  | 19/67.8 | 21/58.3 | 16/64   | 25/89.2 | 19/65.5 | 34/75.5 | 24/68.5 | 30/73.1 | 32/74.4 | 43/64.1 | 36/66.6 |
|      |    | stative | 2/28.5  | 14/50   | 6/42.8  | 9/32.1  | 15/41.6 | 9/36    | 3/10.7  | 10/34.4 | 11/24.4 | 11/31.4 | 11/26.8 | 11/25.5 | 24/35.8 | 18/33.3 |
| S9   | F  | dynamic | nf      | nf      | 19/100  | 7/77.7  | 19/95   | 16/100  | 20/95.2 | 23/95.8 | 18/90   | 18/85.7 | 14/87.5 | 17/100  | 16/94.1 | 41/83.6 |
|      |    | stative |         |         |         | 2/22.2  | 1/5     |         | 1/4.7   | 1/4.1   | 2/10    | 3/14.2  | 2/12.5  |         | 1/5.8   | 8/16.3  |
|      | B  | dynamic | 10/58.8 | nb      | 13/76.4 | 18/58   | 25/60.9 | 24/50   | 16/50   | 15/46.8 | 31/64.5 | 29/67.4 | 19/67.8 | 25/60.9 | 35/59.3 | 25/54.3 |
|      |    | stative | 7/41.1  |         | 4/23.5  | 13/41.9 | 16/39   | 24/50   | 16/50   | 17/53.1 | 17/35.4 | 14/32.5 | 9/32.1  | 16/39   | 24/40.6 | 21/45.6 |
| S10  | F  | dynamic | nf      | nf      | 8/100   | 3/100   | 11/91.6 | 14/82.3 | nf      | 3/75    | nf      | nf      | 12/92.3 | nf      | nf      | 9/100   |
|      |    | stative |         |         |         |         | 1/8.3   | 3/17.6  |         | 1/25    |         |         | 1/7.6   |         |         |         |
|      | B  | dynamic | 3/37.5  | nb      | 11/61.1 | 9/60    | 22/68.7 | 8/42.1  | 14/63.6 | 18/58   | 13/72.2 | 11/68.7 | 15/93.7 | 17/77.2 | 31/75.6 | 33/78.5 |
|      |    | stative | 5/62.5  |         | 7/38.8  | 6/40    | 10/31.2 | 11/57.8 | 8/36.3  | 13/41.9 | 5/27.7  | 5/31.2  | 1/6.2   | 5/22.7  | 10/24.3 | 9/21.4  |

| Subj | DF | VT \ ES            | T1                 | T2                 | T3                 | T4                 | T5                 | T6                 | T7                 | T8                 | T9                 | T10                | T11                | T12                | T13                | T14                |
|------|----|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| S11  | F  | dynamic<br>stative | 4/80<br>1/20       | nf                 | nf                 | nf                 | 25/80.6<br>6/19.3  | 25/78.1<br>7/21.8  | 48/87.2<br>7/12.7  | 30/78.9<br>8/21    | 31/93.9<br>2/6     | 43/86<br>7/14      | 11/100             | 23/85.1<br>4/14.8  | 11/100             | 18/78.2<br>5/21.7  |
|      | B  | dynamic<br>stative | 17/47.2<br>19/52.7 | nb                 | 60/70.5<br>25/29.4 | 31/67.3<br>15/32.6 | 36/67.9<br>17/32   | 54/56.2<br>42/43.7 | 40/62.5<br>24/37.5 | 55/58.5<br>39/41.4 | 23/56<br>18/43.9   | 21/.525<br>19/.475 | 30/57.6<br>22/42.3 | 28/60.8<br>18/39.1 | 26/68.4<br>12/31.5 | 56/68.2<br>26/31.7 |
| S12  | F  | dynamic<br>stative | nf                 | nf                 | 8/100              | nf                 | nf                 | 10/90.9<br>1/9     | nf                 | nf                 | 4/100              | nf                 | 5/83.3<br>1/16.6   | 1/100              | nf                 | 3/100              |
|      | B  | dynamic<br>stative | 4/16<br>21/84      | nb                 | 10/58.8<br>7/41.1  | 13/72.2<br>5/27.7  | 18/50<br>18/50     | 12/80<br>3/20      | 19/52.7<br>17/47.2 | 19/70.3<br>8/29.6  | 17/70.8<br>7/29.1  | 10/52.6<br>9/47.3  | 13/52<br>12/48     | 17/65.3<br>9/34.6  | 16/64<br>9/36      | 22/59.4<br>15/40.5 |
| S13  | F  | dynamic<br>stative | nf                 | 4/100              | nf                 | 3/100              | 18/94.7<br>1/5.2   | 5/100              | 8/100              | 4/100              | nf                 | nf                 | 17/100             | 3/100              | 6/100              | 4/100              |
|      | B  | dynamic<br>stative | 4/66.6<br>2/33.3   | 27/61.3<br>17/38.6 | 12/38.7<br>19/61.2 | 10/55.5<br>8/44.4  | 28/59.5<br>19/40.4 | 7/43.7<br>9/56.2   | 19/55.8<br>15/44.1 | 9/42.8<br>12/57.1  | 24/57.1<br>18/42.8 | 14/100             | 33/67.3<br>16/32.6 | 33/56.8<br>25/43.1 | 24/63.1<br>14/36.8 | 37/68.5<br>17/31.4 |
| S14  | F  | dynamic<br>stative | nf                 | 21/87.5<br>3/12.5  | 17/77.2<br>5/22.7  | 8/88.8<br>1/11.1   | 5/100              | 11/91.6<br>1/8.3   | 12/66.6<br>6/33.3  | nf                 | 9/90<br>1/10       | nf                 | 3/75<br>1/25       | 6/60<br>4/40       | 10/100             | 2/66.6<br>1/33.3   |
|      | B  | dynamic<br>stative | 8/53.3<br>7/46.6   | 9/56.2<br>7/43.7   | 9/52.9<br>8/47.2   | 15/53.5<br>13/46.4 | 14/46.6<br>16/53.3 | 36/66.6<br>18/33.3 | 21/60<br>14/40     | 34/.629<br>20/.37  | 24/70.5<br>10/29.4 | 38/76<br>12/24     | 37/69.8<br>16/30.1 | 40/56.3<br>31/43.6 | 29/50.8<br>28/49.1 | 31/49.2<br>32/50.7 |
| S15  | F  | dynamic<br>stative | 8/88.8<br>1/11.1   | 3/100              | 7/100              | 18/75<br>6/25      | 34/94.4<br>2/5.5   | 29/96.6<br>3/3.3   | nf                 | 19/.95<br>1/.05    | 25/89.2<br>3/10.7  | 26/76.4<br>8/23.5  | 16/100             | 43/100             | 22/100             | 26/92.8<br>2/7.1   |
|      | B  | dynamic<br>stative | 12/80<br>3/20      | 10/52.6<br>9/47.3  | 17/51.5<br>16/48.4 | 27/62.7<br>16/37.2 | 33/50<br>33/50     | 37/.606<br>24/.393 | 37/49.3<br>38/50.6 | 36/.60<br>24/.40   | 46/76.6<br>14/23.3 | 34/58.6<br>24/41.3 | 41/57.7<br>30/42.2 | 48/73.8<br>17/26.1 | 35/60.3<br>23/39.6 | 45/56.2<br>35/43.7 |

|      |    |          |         |         |         |         |         |         |         |         |         |         |         |         |         | (#/%)   |
|------|----|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Subj | DF | ES<br>VT | T1      | T2      | T3      | T4      | T5      | T6      | T7      | T8      | T9      | T10     | T11     | T12     | T13     | T14     |
| S16  | F  | dynamic  | 14/87.5 | 14/73.6 | 4/66.6  | 13/81.2 | 25/86.2 | 12/63.1 | 10/90.9 | 17/80.9 | 33/89.1 | 22/73.3 | nf      | nf      | nf      | 22/84.6 |
|      |    | stative  | 2/12.5  | 5/26.3  | 2/33.3  | 3/18.7  | 4/13.7  | 7/36.8  | 1/9     | 4/19    | 4/10.8  | 8/26.6  |         |         |         | 4/15.3  |
|      | B  | dynamic  | 8/57.1  | 34/66.6 | 16/64   | 27/77.1 | 29/55.7 | 30/66.6 | 30/63.8 | 23/57.5 | 21/53.8 | 15/60   | nb      | 68/68.6 | 31/57.4 | 30/53.5 |
|      |    | stative  | 6/42.8  | 17/33.3 | 9/36    | 8/22.8  | 23/44.2 | 15/33.3 | 17/36.1 | 17/42.4 | 18/46.1 | 10/40   |         | 31/31.3 | 23/42.5 | 26/46.4 |
| S17  | F  | dynamic  | 13/81.2 | 13/92.8 | 9/100   | 20/95.2 | 23/79.3 | 15/83.3 | 22/84.6 | 11/73.3 | 14/93.3 | 18/85.7 | 15/83.3 | 42/84   | 35/97.2 | 18/72   |
|      |    | stative  | 3/18.7  | 1/7.1   |         | 1/4.7   | 6/20.6  | 3/16.6  | 4/15.3  | 4/26.6  | 1/6.6   | 3/14.2  | 3/16.6  | 8/16    | 1/2.9   | 7/28    |
|      | B  | dynamic  | 8/80    | 19/70.3 | 14/51.8 | 31/72   | 32/68   | 39/73.5 | 26/60.4 | 21/65.6 | 23/58.9 | 28/63.6 | 28/71.7 | 17/51.5 | 17/68   | 26/61.9 |
|      |    | stative  | 2/20    | 8/29.6  | 13/48.1 | 12/27.9 | 15/31.9 | 14/26.4 | 17/39.5 | 11/34.3 | 16/41   | 16/36.3 | 11/28.2 | 16/48.4 | 8/32    | 16/38   |
| S18  | F  | dynamic  | 2/100   | nf      | 10/83.3 | nf      | nf      | 6/100   | 16/100  | nf      | nf      | nf      | 6/85.7  | 8/100   | 25/75.7 | 15/100  |
|      |    | stative  |         |         | 2/16.6  |         |         |         |         |         |         |         | 1/14.2  |         | 8/24.2  |         |
|      | B  | dynamic  | 3/50    | 8/53.3  | 17/50   | 25/78.1 | 15/60   | 11/33.3 | 10/40   | 15/44.1 | 26/56.5 | 7/46.6  | 42/71.1 | 34/73.9 | 12/44.4 | 28/57.1 |
|      |    | stative  | 3/50    | 7/46.6  | 17/50   | 7/21.8  | 10/40   | 22/66.6 | 15/60   | 19/55.8 | 20/43.4 | 8/53.3  | 17/28.8 | 12/33.3 | 15/55.5 | 21/42.8 |
| S19  | F  | dynamic  | 2/50    | nf      | nf      | nf      | 20/90.9 | 18/90   | 9/90    | nf      | 11/84.6 | 17/94.4 | 6/85.7  | nf      | 8/80    | 12/92.3 |
|      |    | stative  | 2/50    |         |         |         | 2/9     | 2/10    | 1/10    |         | 2/15.3  | 1/5.5   | 1/14.2  |         | 2/20    | 1/7.6   |
|      | B  | dynamic  | 9/60    | 15/57.6 | 19/59.3 | 17/58.6 | 45/72.5 | 55/71.4 | 48/64   | 30/60   | 40/70.1 | 22/53.6 | 23/51.1 | 27/49   | 29/59.1 | 45/67.1 |
|      |    | stative  | 6/40    | 11/42.3 | 13/40.6 | 12/41.3 | 17/27.4 | 22/28.5 | 27/36   | 20/40   | 17/29.8 | 19/46.3 | 22/48.8 | 28/50.9 | 20/40.8 | 22/32.8 |
| S20  | F  | dynamic  | nf      | nf      | 12/100  | 5/100   | 7/87.5  | 18/81.8 | 14/100  | 8/100   | 19/79.1 | 27/93.1 | 21/100  | 10/90.9 | 9/100   | 11/91.6 |
|      |    | stative  |         |         |         |         | 1/12.5  | 4/18.1  |         |         | 5/20.8  | 2/6.8   |         | 1/9     |         | 1/8.3   |
|      | B  | dynamic  | 10/71.4 | 9/47.3  | 9/40.9  | 18/54.5 | 16/53.3 | 29/74.3 | 52/641  | 46/718  | 28/70   | 35/55.5 | 57/79.1 | 37/71.1 | 23/57.5 | 57/73   |
|      |    | stative  | 4/28.5  | 10/52.6 | 13/59   | 15/45.4 | 14/46.6 | 10/25.6 | 29/358  | 18/281  | 12/30   | 28/44.4 | 15/20.8 | 15/28.8 | 17/42.5 | 21/26.9 |

Table 23. Target Verb Forms used by Subjects to express Foreground and Background Information

| #/#%  |             |    |  |  |  |   |  |  |  |   |   |  |  |   |   |   |
|-------|-------------|----|--|--|--|---|--|--|--|---|---|--|--|---|---|---|
| Subj. | DF          | ES | T1   | T2   | T3   | T4  | T5   | T6   | T7   | T8  | T9  | T10  | T11  | T12   | T13   | T14   |
| S1    | Fore-ground |    | nf   | cp^ 3/50<br>ir 2/33.3<br>bf 1/16.6   | nf   | bf 2/100  | ir 2/50<br>cp^ 1/25<br>ved 1/25  | ir 2/50<br>bf 1/25<br>ng^ 1/25   | ir 2/66.6<br>cp^ 1/33.3  | bf 3/50<br>ir 2/33.3<br>cp* 1/16.6  | ir 6/66.6<br>bf 2/22.2<br>pf^ 1/11.1  | ved 1/100  | ir 5/55.5<br>bf 2/22.2<br>cp^ 1/11.1<br>mb^ 1/11.1   | bf 2/50<br>ved 2/50   | nf  | ir 1/50<br>bf 1/50  |
|       | Back-ground |    | cp* 5/27.7<br>ved 3/16.6<br>ir 2/11.1<br>mn* 2/11.1<br>ng* 2/11.1<br>bf 1/5.5<br>cp^ 1/5.5<br>mb^ 1/5.5<br>pg^ 1/5.5 | cp^ 5/57.1<br>cp* 2/28.5<br>ir 1/14.2                                      | cp* 4/50<br>ir 1/12.5<br>bf 1/12.5<br>3sg 1/12.5<br>pc* 1/12.5 | bf 7/41.1<br>cp* 4/23.5<br>ir 2/11.7<br>ved 1/5.8<br>ng^ 1/5.8<br>pg* 1/5.8<br>cns* 1/5.8 | bf 5/27.7<br>ir 4/22.2<br>cp* 3/16.6<br>cp^ 3/16.6<br>ved 1/5.5<br>mb* 1/5.5<br>pn^ 1/5.5              | cp* 11/47.8<br>ir 3/13<br>bf 2/8.6<br>mb* 5/16.1<br>cp^ 2/8.6<br>ved 1/4.3<br>mb* 1/4.3<br>3s 1/4.3<br>ng* 1/4.3<br>cns^ 1/4.3 | cp* 11/35.4<br>ir 6/19.3<br>bf 2/8.6<br>mb* 5/16.1<br>cp^ 2/8.6<br>ved 1/4.3<br>3sn 2/6.4<br>bf 1/3.2<br>mn* 1/3.2 | ir 9/29<br>bf 6/19.3<br>cp* 4/12.9<br>pg* 4/16<br>bf 3/12<br>cp^ 2/8<br>ved 2/8<br>pg^ 2/8<br>mb* 1/4<br>pf^ 1/4<br>ln^ 1/3.2 | cp* 6/24<br>ir 4/16<br>pg* 4/16<br>bf 3/12<br>ir 3/5.5<br>ps* 3/5.5<br>3s 2/3.7<br>mb* 1/1.8<br>pc^ 1/1.8 | cp* 18/33.3<br>ved 9/16.6<br>bf 7/12.9<br>3sn 4/7.4<br>ir 3/5.5<br>ps* 3/5.5<br>3s 2/3.7<br>mb* 1/1.8<br>pc^ 1/1.8           | cp* 10/38.4<br>ir 7/26.9<br>bf 6/23<br>cp^ 1/3.8<br>pf^ 1/3.8<br>pn* 1/3.8                             | bf 6/37.5<br>cp* 4/25<br>ir 3/18.7<br>ved 1/6.2<br>mb* 1/6.2<br>mn* 1/6.2   | cp* 9/45<br>ir 4/20<br>bf 4/20<br>mb* 1/5<br>mn* 1/5<br>ng* 1/5   | bf 10/35.7<br>cp* 5/17.8<br>mb* 3/10.7<br>ir 2/7.1<br>cp^ 2/7.1<br>pg* 2/7.1<br>3s 1/3.5<br>mb^ 1/3.5<br>pg^ 1/3.5<br>ng* 1/3.5 |
| S2    | Fore-ground |    | ir 2/50<br>bf 1/25<br>pf^ 1/25   | ir 4/50<br>bf 3/37.5<br>pg^ 1/12.5   | ir 2/66.6<br>pvc^ 1/33.3                                       | ir 2/40<br>bf 2/40<br>hvb 1/20  | ir 4/30.7<br>bf 4/30.7<br>ved 3/23<br>mb* 1/7.6<br>ng^ 1/7.6   | bf 1/50<br>pg^ 1/50  | ir 2/33.3<br>bf 2/33.3<br>ved 1/16.6<br>mn^ 1/16.6   | bf 2/40<br>ved 2/40<br>mb* 1/20   | ir 4/30.7<br>bf 3/23<br>cp^ 2/15.3<br>mn^ 2/15.3<br>3s 1/7.6<br>pg^ 1/7.6                                 | ir 9/50<br>bf 6/33.3<br>cp^ 1/5.5<br>ng^ 1/5.5<br>mn^ 1/5.5  | ir 9/60<br>bf 2/13.3<br>ved 2/13.3<br>ng^ 1/6.6<br>hvb 1/6.6   | bf 1/100  | bf 6/42.8<br>ir 4/28.5<br>cp* 1/7.1<br>mn^ 1/7.1<br>hdb 1/7.1<br>pc* 1/7.1  | ir 5/62.5<br>bf 1/12.5<br>cp^ 1/12.5<br>mn^ 1/12.5  |
|       | Back-ground |    | bf 4/23.5<br>mn^ 3/17.6<br>ir 2/11.7<br>cp* 2/11.7<br>cp^ 2/11.7<br>mb* 1/5.9<br>ng^ 1/5.9<br>mn^ 1/5.9<br>pf^ 1/5.9 | bf 4/30.7<br>cp* 4/30.7<br>ir 1/7.7<br>mb* 1/7.7<br>pf^ 1/7.7<br>ig^ 1/7.7 | bf 6/54.5<br>cp* 2/18.1<br>mb* 2/18.1<br>cp^ 1/9               | bf 7/31.8<br>ir 5/22.7<br>mb* 4/18.1<br>cp^ 3/13.6<br>cp* 2/9<br>ng^ 1/4.5                | cp* 4/28.5<br>ir 2/14.2<br>bf 2/14.2<br>cp^ 2/14.2<br>ved 1/7.1<br>mn* 1/7.1<br>pg* 1/7.1<br>ln* 1/7.1 | bf 3/27.2<br>cp* 3/27.2<br>ved 1/9<br>mb* 1/9<br>pf^ 1/9<br>cns* 1/9<br>pc* 1/9  | cp* 2/16.6<br>mb* 2/16.6<br>3s 2/16.6<br>pg^ 2/16.6<br>ps* 2/16.6<br>ir 1/8.3<br>ved 1/8.3                         | cp* 6/40<br>bf 2/13.3<br>cp^ 2/13.3<br>ir 1/6.6<br>ng^ 1/6.6<br>pf^ 1/6.6<br>pg* 1/6.6<br>hvb 1/6.6                           | ir 5/26.3<br>cp* 4/20.8<br>bf 3/15.7<br>cp^ 2/10.5<br>ved 1/5.2<br>mb* 1/5.2<br>hdb 1/5.2<br>pvm* 1/5.2   | ir 8/36.3<br>cp* 6/27.2<br>bf 5/20.8<br>mb* 2/9<br>bf 1/4.5<br>cp^ 1/4.5<br>3s 1/4.5<br>mb^ 1/4.5<br>pg^ 1/4.5<br>igm* 1/4.5 | cp* 7/29.1<br>ir 5/20.8<br>bf 5/20.8<br>cp^ 2/8.3<br>pvm* 2/8.3<br>ved 1/4.1<br>pg* 1/4.1<br>pc* 1/4.1 | cp* 11/29.7<br>ir 10/27<br>bf 5/13.5<br>cp^ 3/8.1<br>mb* 2/5.4<br>ved 1/2.7<br>ng* 1/2.7<br>3s 1/2.7<br>pf^ 1/2.7<br>cns* 1/2.7 | ir 7/21.8<br>bf 7/21.8<br>cp* 6/18.7<br>cp^ 3/9.3<br>mb* 3/9.3<br>mn^ 3/9.3<br>pf* 1/3.1<br>pg* 1/3.1<br>pcs* 1/3.1 | cp* 11/33.3<br>bf 5/15.1<br>mn^ 5/15.1<br>ir 4/12.1<br>mb* 3/9<br>cp^ 2/6<br>ved 1/3<br>pf^ 1/3<br>ng* 1/3                      |
| S3    | Fore-ground |    | ir 2/50<br>bf 2/50   | ir 8/44.4<br>bf 8/44.4<br>cp* 1/5.5<br>cp^ 1/5.5                           | bf 2/50<br>ir 1/25<br>3s 1/25                                  | ir 4/66.6<br>bf 1/16.6<br>cp* 1/16.6  | bf 3/37.5<br>ir 1/12.5<br>cp* 1/12.5<br>ved 1/12.5<br>mb* 1/12.5<br>ng^ 1/12.5                         | ir 6/46.1<br>bf 2/15.3<br>ng^ 2/15.3<br>cp^ 1/7.6<br>pf^ 1/7.6<br>cns^ 1/7.6   | ir 11/78.5<br>ved 2/14.2<br>cp^ 1/7.1  | ir 7/77.7<br>bf 1/11.1<br>cp^ 1/11.1  | ir 8/44.4<br>cp^ 4/22.2<br>bf 3/16.6<br>mb* 2/11<br>pg^ 1/5.5   | ir 32/76.1<br>bf 3/7.1<br>cp^ 2/4.7<br>ved 2/4.7<br>mb* 1/2.3<br>ng^ 1/2.3<br>cns^ 1/2.3                                     | ir 9/60<br>bf 5/33.3<br>ved 1/6.6  | ir 4/66.6<br>cp* 1/16.6<br>mb* 1/16.6   | ir 8/47<br>bf 3/17.6<br>cp* 3/17.6<br>cp^ 1/5.8<br>ng^ 1/5.8<br>3s 1/5.8  | ir 4/36.3<br>mb* 3/27.2<br>bf 2/18.1<br>ng^ 1/9<br>pf^ 1/9  |

Subj. = subject; DF = discoursal function; ES = elicitation session; T1, T2, etc. = the first elicitation session, the second elicitation, etc.; "-" = no foreground or background information; #/% = number of instances the particular type of verb form was used in the particular elicitation; session/percentage of the number in the total number of instances all types of verb form were used in the particular elicitation session; bf = base verb form; cn<sup>^</sup> = past copular in negative form; cns<sup>^</sup> = present singular copular in negative form; cns<sup>^</sup> = past singular copula in negative form; cp<sup>^</sup> = present copula verb; cp<sup>^</sup> = past copula verb; hdb = had to + base verb form; hvb = have to + base verb form; ig<sup>^</sup> = verb in interrogative form in past tense; igm<sup>^</sup> = present modal verb in interrogative form; ln<sup>^</sup> = independently used present modal verb; lnng<sup>^</sup> = independently used present modal verb in negative form; lnng<sup>^</sup> = independently used past modal verb in negative form; mn<sup>^</sup> = present modal verb in negative form; mn<sup>^</sup> = past modal verb in negative form; ng = don't + base verb form; ng<sup>^</sup> = didn't + base verb form; pc<sup>^</sup> = copula in past perfect aspect; pcs<sup>^</sup> = singular copula in present perfect aspect; pf<sup>^</sup> = verb in present perfect form; pf<sup>^</sup> = verb in past perfect aspect; pfc<sup>^</sup> = verb in present perfect progressive aspect; pg<sup>^</sup> = verb in past progressive aspect; pg<sup>^</sup> = verb in present progressive aspect; pn<sup>^</sup> = negative verb form in present perfect aspect; pn<sup>^</sup> = negative verb in past perfect aspect; ps<sup>^</sup> = singular verb in present perfect aspect; pvc<sup>^</sup> = present copula in passive voice; pvc<sup>^</sup> = past copula in passive voice; pvm<sup>^</sup> = present modal verb in passive voice; pvm<sup>^</sup> = past modal verb in passive voice; pvpf<sup>^</sup> = past perfect verb form in passive voice; pvpfs<sup>^</sup> = passive voice of singular verb in present perfect aspect; 3s = third person singular present; 3sn = third person singular present in negative form; ved = regular verb past form

| #(%)  |    |             |  |  |  |   |  |  |  |  |   |   |  |   |  |  |
|-------|----|-------------|--|--|--|---|--|--|--|--|---|---|--|---|--|--|
| Subj. | DF | ES          | T1   | T2   | T3   | T4  | T5   | T6   | T7   | T8   | T9  | T10   | T11  | T12   | T13  | T14  |
| S3    |    | Back-ground | cp^ 9/34.6<br>bf 8/30.7<br>ir 3/11.5<br>cp* 3/11.5<br>ved 1/3.8<br>mb*1/3.8<br>ng^ 1/3.8 | bf 8/42.1<br>cp^ 3/15.7<br>cp* 2/10.5<br>mb*2/10.5<br>ir 1/5.2<br>ng^ 1/5.2<br>3s 1/5.2<br>ng* 1/5.2 | bf 5/27<br>ir 4/22.2<br>cp* 3/16.6<br>cp^ 1/5.5<br>mb*1/5.5<br>ng^ 1/5.5<br>ng* 1/5.5<br>3ig 1/5.5   | ir 13/32.5<br>cp* 8/20<br>bf 7/17.5<br>mb*3/7.5<br>ng^ 3/7.5<br>ir 4/11.1<br>mn^ 1/2.7<br>pg^ 1/2.7<br>hdb 1/2.7<br>cbs^ 1/2.7<br>3s 1/2.5<br>mb^1/2.5<br>3sn 1/2.5 | ved 9/25<br>bf 8/22.2<br>cp* 6/16.6<br>cp^ 5/13.8<br>ir 4/11.1<br>pvm* 2/6.1<br>bf 1/3<br>mb* 1/3<br>mn* 1/3<br>cns* 1/3<br>pfc^ 1/3<br>pvm^ 1/3 | cp^11/33.3<br>ir 10/30.3<br>ved 2/6.1<br>ng^ 2/6.1<br>pvm* 2/6.1<br>bf 1/3<br>mb* 1/3<br>mn* 1/3<br>pg* 1/2.7<br>ig^ 1/2.7     | bf 18/22.7<br>cp^17/21.5<br>ir 12/15.1<br>cp* 6/7.6<br>mb* 6/7.6<br>ng^ 4/5<br>mn* 3/3.8<br>pf^ 3/3.8<br>pg^ 3/3.8<br>ng* 2/2.5<br>cns^2/2.5<br>ved 1/1.3<br>3s 1/1.3<br>igm*1/1.3 | cp*10/20.4<br>cp^10/20.4<br>bf 8/16.3<br>ir 6/12.2<br>mb* 4/8.2<br>mn* 2/4.1<br>pf^ 2/4.1<br>pg^ 2/4.1<br>3s 1/2<br>ng* 1/2<br>mn^ 1/2<br>pg* 1/2<br>pn* 1/2 | bf 14/35.8<br>cp^ 6/15.3<br>ir 4/10.2<br>pg^ 4/10.2<br>mb* 3/7.7<br>pf^ 3/7.7<br>cp* 2/5.1<br>ved 1/2.6<br>3s 1/2.6<br>mn* 1/2.6                              | bf 15/25<br>ir 12/20<br>cp*7/11.6<br>cp^7/11.6<br>mb*5/8.3<br>ved 3/5<br>ng^ 3/5<br>pf^ 2/3.3<br>igm*2/3.3<br>3s 1/1.6<br>pg* 1/1.6<br>cns^1/1.6<br>ps* 1/1.6 | ir 16/33.3<br>cp^ 11/22.9<br>bf 8/16.6<br>cp* 6/12.5<br>mb* 4/8.3<br>cns^ 1/2<br>ln* 1/2<br>cn^ 1/2                | ir 6/27.2<br>bf 5/22.7<br>cp* 4/18.1<br>cp^ 4/18.1<br>mb* 1/4.5<br>ng* 1/4.5<br>pvm*1/4.5   | bf 11/42.3<br>cp* 4/15.3<br>cp^ 4/15.3<br>mb* 4/15.3<br>3s 1/3.8<br>pf^ 1/3.8<br>igm* 1/3.8                      |  |
| S4    |    | Fore-ground | ir 4/44.4<br>bf 2/22.2<br>cp^2/22.2<br>ng^1/11.1   | ir 3/33.3<br>bf 2/22.2<br>mn*2/22.2<br>cp* 1/11.1<br>psn*1/11.1                                      | bf 3/33.3<br>ir 2/22.2<br>ved 2/22.2<br>ng* 1/11.1<br>pf^ 1/11.1   | bf 7/63.6<br>ir 3/27.2<br>ved 1/9   | ir 23/41<br>ved12/21.4<br>bf 9/16<br>cp* 3/5.4<br>cp^ 3/5.4<br>ng^ 2/3.6<br>pf^ 2/3.6<br>mb* 1/1.8<br>pf* 1/1.8                                  | ir 15/55.5<br>bf 5/18.5<br>ved 2/7.4<br>cp^ 1/3.7<br>mb*1/3.7<br>mn*1/3.7<br>pf^ 1/3.7<br>pg^ 1/3.7                            | ir 12/50<br>bf 7/29.1<br>cp^ 2/8.3<br>ved 1/4.1<br>pg^ 1/4.1<br>pn* 1/4.1  | ved 3/50<br>ir 1/16.6<br>bf 1/16.6<br>pn^ 1/16.6   | ir 10/50<br>ved 3/15<br>bf 2/10<br>ng^ 2/10<br>cp^ 1/5<br>nb* 1/5<br>pf^ 1/5  | ir 12/42.8<br>bf 6/21.4<br>cp^ 3/10.7<br>ved 2/7.1<br>mb* 2/7.1<br>cp* 1/3.5<br>pf^ 1/3.5<br>ng* 1/3.5  | ir 10/52.6<br>bf 3/15.7<br>cp^ 2/10.5<br>ved 1/5.2<br>pf^ 1/5.2<br>ps* 1/5.2                                       | bf 17/43.5<br>ir 13/33.3<br>ved 5/12.8<br>cp^ 2/5.1<br>pg^ 2/5.1  | ir 4/36.3<br>bf 2/18.1<br>cp* 2/18.1<br>ved 2/18.1<br>ng* 1/9  | ir 22/45.8<br>bf 12/25<br>ved 6/12.5<br>cp* 2/4.1<br>cp^ 2/4.1<br>mn* 2/4.1<br>mb^ 1/2<br>ps* 1/2  |
|       |    | Back-ground | bf 4/42.8<br>cp^ 5/35.7<br>mb*2/14.2<br>cp* 1/7.1  | bf 5/35.7<br>mn*3/21.4<br>cp* 2/14.2<br>ir 1/7.1<br>cp^ 1/7.1<br>mb* 1/7.1<br>pc^ 1/7.1              | bf 4/16.6<br>cp^4/16.6<br>ved 3/12.5<br>mn^3/12.5<br>mb*2/9.5<br>cns^2/8.3<br>ir 1/4.2<br>cp* 1/4.2<br>ng^ 1/4.2<br>3s 1/4.2<br>mb^ 1/4.2<br>pf* 1/4.2 | cp^ 6/28.5<br>ir 3/14.2<br>bf 3/14.2<br>mb*2/9.5<br>mn*2/9.5<br>cp* 1/4.8<br>ng^ 1/4.8<br>pg^ 1/4.8<br>mb^ 1/1.7<br>pn* 1/4.8                                       | bf 12/21.4<br>cp^12/21.4<br>mb*12/21.4<br>cp* 7/12.5<br>ir 4/7.1<br>mb* 3/5.3<br>pf^ 2/3.5<br>igm*2/3.5<br>pf^ 1/1.7<br>ng* 1/1.7                | mb*16/28<br>cp^13/22.8<br>bf 9/15.7<br>cp* 6/10.5<br>ir 5/8.7<br>mb* 2/3.5<br>mn^ 2/3.5<br>ng^ 1/1.7<br>pf^ 1/1.7<br>ng* 1/1.7 | cp^ 8/25.8<br>bf 7/22.5<br>ir 5/16.1<br>mb*4/12.9<br>cp* 2/6.4<br>ved 2/6.4<br>ng^ 2/6.4<br>ps* 1/3.2  | cp^12/46.1<br>ir 5/19.2<br>ved 3/11.5<br>cp* 2/7.6<br>mb* 1/3.8<br>mn* 1/3.8<br>pf^ 1/3.8<br>pg^ 1/3.8   | bf 13/26.5<br>cp^7/14.3<br>mb* 7/14.3<br>ir 6/12.2<br>cp* 5/10.2<br>pf^ 3/6.1<br>ng^ 1/2<br>mn* 1/2<br>pf^ 1/2<br>cns^ 1/2<br>pn* 1/2<br>pvm* 1/2<br>pvm^ 1/2 | bf 12/22.6<br>ir 9/16.9<br>cp* 9/16.9<br>cp^ 7/13.2<br>mb*4/7.5<br>pf^ 3/5.6<br>3s 2/3.7<br>ved 2/3.7<br>cns^1/1.9<br>pn* 1/1.9<br>ig^ 1/1.9<br>pfc^1/1.9     | bf 12/31.5<br>cp^10/26.3<br>cp* 3/7.9<br>mb* 3/7.9<br>pf^ 3/7.9<br>pg^ 3/7.9<br>ir 2/5.3<br>pn^ 1/2.6<br>ps* 1/2.6 | bf 19/30.6<br>cp^10/16.1<br>ir 9/14.5<br>cp* 9/14.5<br>mb*3/4.8<br>ved 2/3.2<br>ng^ 2/3.2<br>mn^ 2/3.2<br>pc^ 2/3.2<br>mn* 1/1.6<br>ng* 1/1.6<br>pg* 1/1.6<br>pvm*1/1.6 | bf 8/22.2<br>cp*8/22.2<br>ir 6/16.6<br>cp^5/13.8<br>ved 3/8.3<br>mb*3/8.3<br>ng^ 1/2.7<br>pf^ 1/2.7<br>pc* 1/2.7 | bf 15/21.1<br>ir 14/19.7<br>mb*12/16.9<br>cp^ 10/14<br>cp* 5/7.1<br>ng^ 3/4.2<br>mn* 3/4.2<br>ved 2/2.8<br>pf^ 1/1.4<br>pg^ 1/1.4<br>pf* 1/1.4<br>pg* 1/1.4<br>pc* 1/1.4<br>pvm*1/1.4<br>pc^ 1/1.4 |

| (H/%) |             |    |  |   |  |   |   |   |  |   |   |   |  |  |   |   |
|-------|-------------|----|--|---|--|---|---|---|--|---|---|---|--|--|---|---|
| Subj. | DF          | ES | T1   | T2  | T3   | T4  | T5  | T6  | T7   | T8  | T9  | T10   | T11  | T12  | T13   | T14   |
| S5    | Fore-ground |    | nf   | bf 2/28.5<br>cp^ 1/14.2<br>ved 1/14.2<br>pf^ 1/14.2<br>pg^ 1/14.2<br>pc^ 1/14.2 | ir 4/50<br>bf 2/25<br>mb* 1/12.5<br>pvm^ 1/12.5  | ved 2/50<br>ir 1/25<br>bf 1/25  | ir 2/66.6<br>bf 1/33.3  | ir 2/50<br>bf 2/50  | ir 5/45.4<br>bf 3/27.2<br>mb^ 1/9<br>pf^ 1/9<br>pf* 1/9  | ir 7/58.3<br>bf 3/25<br>ng^ 1/8.3<br>mb^ 1/8.3  | ir 2/50<br>ng^ 1/25<br>mn^ 1/25   | bf 4/66.6<br>ir 2/33.3  | ir 5/71.4<br>bf 2/28.5   | nf   | ir 8/53<br>hvb 3/20<br>bf 1/6.7<br>cp* 1/6.7<br>cp^ 1/6.7<br>pg^ 1/6.7  | ir 8/40<br>bf 5/25<br>ved 4/20<br>cp* 2/10<br>cp^ 1/5   |
|       | Back-ground |    | cp* 5/41.6<br>cp^ 4/33.3<br>ir 1/8.3<br>ng^ 1/8.3<br>mn* 1/8.3                         | cp^ 3/30<br>ir 2/20<br>bf 2/20<br>cp* 1/10<br>mb* 1/10<br>pf* 1/10              | bf 9/31<br>cp* 7/24.1<br>ir 4/13.8<br>hvb 2/6.9<br>cp^ 1/3.4<br>ved 1/3.4<br>mb* 1/3.4<br>ng^ 1/3.4<br>pf^ 1/3.4<br>pg^ 1/3.4<br>pc* 1/3.4 | ir 4/40<br>cp* 3/30<br>ng^ 2/20<br>cns^ 1/10  | ir 8/38<br>bf 5/23.8<br>cp* 3/14.2<br>cp^ 2/9.5<br>pg^ 2/9.5<br>hvb 1/4.7                         | ir 4/21<br>cp* 3/15.7<br>ved 3/15.7<br>cp^ 2/10.5<br>hvb 2/10.5<br>bf 1/5.3<br>pg^ 1/5.3<br>pf* 1/5.3<br>pcs* 1/5.3<br>pvpfs* 1/5.3 | ir 2/28.5<br>bf 2/28.5<br>ved 1/14.2<br>ng^ 1/14.2<br>mn^ 1/14.2   | bf 3/23<br>cf^ 3/23<br>ir 2/15.4<br>cp* 1/7.7<br>ved 1/7.7<br>ng^ 1/7.7<br>mb^ 1/7.7<br>cns^ 1/7.7                  | ir 3/37.5<br>ng^ 2/25<br>cp* 1/12.5<br>cp^ 1/12.5<br>ng* 1/12.5   | ir 3/27.2<br>cp^ 3/27.2<br>bf 2/18.1<br>ved 2/18.1<br>ng^ 1/9 | cp^ 6/40<br>ir 4/26.6<br>bf 2/13.3<br>cp* 2/13.3<br>hdb 1/6.6  | cp^ 4/40<br>ir 3/30<br>bf 2/20<br>cp* 1/10                                 | bf 5/21.7<br>cp* 4/17.3<br>cp^ 4/17.3<br>ir 3/13<br>hvb 2/8.6<br>mb* 1/4.3<br>3s 1/4.3<br>mn* 1/4.3<br>pg^ 1/4.3<br>pf* 1/4.3 | bf 5/25<br>ir 3/15<br>cp* 3/15<br>cp^ 2/10<br>ved 2/10<br>mb* 2/10<br>ng* 1/5<br>pf* 1/5<br>pvpf^ 1/5                                       |
| S6    | Fore-ground |    | nf   | ir 3/33.3<br>bf 3/33.3<br>mn* 2/22.2<br>pg^ 1/11.1                              | nf   | ir 3/75<br>pg^ 1/25   | ir 7/53.8<br>bf 2/15.3<br>cp^ 2/15.3<br>pg^ 1/7.6<br>mn^ 1/7.6                                    | ir 15/57.6<br>ved 5/19.2<br>bf 2/7.6<br>mb* 1/3.8<br>ng^ 1/3.8<br>mb^ 1/3.8<br>pg^ 1/3.8  | bf 7/58.3<br>ir 1/8.3<br>cp^ 1/8.3<br>3s 1/8.3<br>mn* 1/8.3<br>hvb 1/8.3   | ir 2/50<br>cp^ 1/25<br>pg^ 1/25   | nf  | bf 9/52.9<br>ir 3/17.6<br>ved 3/17.6<br>cp^ 2/11.7            | ir 13/68.4<br>bf 2/10.5<br>ved 2/10.5<br>ng^ 1/5.2<br>hdb 1/5.2  | ir 10/62.5<br>bf 2/12.5<br>cp* 2/12.5<br>ved 2/12.5                        | bf 3/33.3<br>ved 3/33.3<br>ir 1/11.1<br>ng^ 1/11.1<br>pg^ 1/11.1  | ir 5/55.5<br>cp* 1/11.1<br>cp^ 1/11.1<br>ng^ 1/11.1<br>ng* 1/11.1   |
|       | Back-ground |    | cp* 3/25<br>ir 2/16.6<br>bf 2/16.6<br>cp^ 2/16.6<br>mb 1/8.3<br>ng^ 1/8.3<br>pg^ 1/8.3 | bf 4/26.6<br>cp* 3/20<br>cp^ 3/20<br>ng* 3/20<br>mb^ 1/6.6<br>mb* 1/6.6         | cp* 6/42.8<br>cp^ 3/21.4<br>ir 2/14.2<br>bf 2/14.2<br>mb* 1/7.1  | ir 7/35<br>bf 3/15<br>cp* 2/10<br>cp^ 2/10<br>ng^ 2/10<br>pg* 2/10<br>3s 1/5<br>mb^ 1/5 | ir 5/25<br>cp^ 4/20<br>mb* 3/15<br>pf^ 2/10<br>pg* 2/10<br>bf 1/5<br>cp* 1/5<br>mb 1/5<br>pg^ 1/5 | cp* 6/24<br>cp^ 6/24<br>bf 5/20<br>mb* 2/8<br>pg^ 2/8<br>ig^ 2/8<br>ir 1/4<br>mn* 1/4   | ir 11/25<br>bf 9/20.4<br>cp^ 9/20.4<br>mb* 6/13.6<br>cp* 3/6.8<br>cp^ 3/6.8<br>ng^ 1/2.2<br>ngm* 3/6.8<br>mn^ 1/2.2<br>hdb 1/2.2 | ir 10/32.2<br>bf 7/22.5<br>cp* 4/12.9<br>cp^ 2/6.4<br>mb* 2/6.4<br>ng^ 2/6.4<br>pg* 2/6.4<br>mn* 1/3.2<br>pg^ 1/3.2 | ir 12/44.4<br>bf 4/14.8<br>cp* 3/11.1<br>cp^ 2/7.4<br>ng^ 2/7.4<br>ved 1/3.7<br>mb* 1/3.7<br>mb^ 1/3.7<br>mn* 1/3.7<br>pg^ 1/3.7<br>pg* 1/3.7 | cp* 4/36.3<br>mb* 3/27.2<br>ir 2/18.1<br>bf 1/9<br>mn* 1/9    | ir 4/25<br>bf 4/25<br>cp* 1/6.2<br>ng^ 1/6.2<br>ng* 1/6.2<br>pf* 1/6.2<br>hdb 1/6.2<br>hvb 1/6.2<br>ig^ 1/6.2<br>lnng* 1/6.2 | bf 4/30.7<br>cp* 3/23<br>ir 2/15.3<br>mn* 2/15.3<br>cp* 1/7.6<br>ng* 1/7.6 | cp^ 6/26<br>ir 3/13<br>bf 3/13<br>mb^ 3/13<br>ng^ 2/8.7<br>pg^ 2/8.7<br>cp* 1/4.3<br>ved 1/4.3<br>mn^ 1/4.3<br>ps* 1/4.3      | ir 6/18.7<br>bf 5/15.6<br>pg* 4/12.5<br>cp* 3/9.3<br>ng^ 3/9.3<br>cp^ 2/6.2<br>mb^ 2/6.2<br>3s 1/3.1<br>pf^ 1/3.1<br>pg^ 1/3.1<br>hdb 1/3.1 |



|       |             | (#/%)  |  |  |   |  |  |   |   |   |   |   |  |   |  |
|-------|-------------|--|--|--|---|--|--|---|---|---|---|---|--|---|--|
| Subj. | ES<br>DF    | T1   | T2   | T3   | T4  | T5   | T6   | T7  | T8  | T9  | T10   | T11   | T12  | T13   | T14  |
| S7    | Fore-ground | ir 7/71.4<br>ved 1/14.2<br>mn <sup>^</sup> 1/14.2  | ir 7/53.8<br>ng <sup>^</sup> 2/15.3<br>mn <sup>^</sup> 2/15.3<br>bf 1/7.6<br>ved 1/7.6   | ir 16/84.2<br>bf 2/10.5<br>ved 1/5   | ir 3/75<br>pn <sup>*</sup> 1/25   | ir 7/70<br>cp <sup>^</sup> 1/10<br>ved 1/10<br>pf <sup>^</sup> 1/10  | ir 1/100   | ir 5/45.4<br>ved 2/18.1<br>bf 1/9<br>cp <sup>^</sup> 1/9<br>mb <sup>*</sup> 1/9<br>mn <sup>^</sup> 1/9  | ir 6/40<br>bf 3/20<br>ved 3/20<br>cp <sup>^</sup> 1/6.6<br>pf <sup>^</sup> 1/6.6<br>lnng <sup>^</sup> 1/6.6   | ir 14/46.4<br>ved 5/16.6<br>cp <sup>^</sup> 4/13.3<br>mn <sup>^</sup> 3/10<br>bf 2/6.6<br>mb <sup>^</sup> 1/3.3<br>pvpf <sup>^</sup> 1/3.3  | ir 10/47.6<br>bf 6/28.5<br>cp <sup>^</sup> 2/9.5<br>ved 2/9.5<br>pg <sup>^</sup> 1/4.7  | ir 11/45.8<br>bf 8/33.3<br>ved 2/086<br>cp <sup>^</sup> 1/4.1<br>mb <sup>^</sup> 1/4.1<br>hdb 1/4.1   | bf 9/39<br>ir 7/304<br>ved 2/086<br>pf <sup>^</sup> 2/086<br>cp <sup>^</sup> 1/043<br>ng <sup>^</sup> 1/043<br>mn <sup>^</sup> 1/043   | ir 4/36.3<br>ved 3/27.2<br>bf 2/18.1<br>cp <sup>^</sup> 2/18.1  | ir 11/50<br>bf 5/22.7<br>cp <sup>^</sup> 2/9<br>ved 2/9<br>cp <sup>*</sup> 1/4.5<br>mb <sup>^</sup> 1/4.5  |
|       | Back-ground | cp <sup>*</sup> 5/41.6<br>ir 2/16.6<br>bf 2/16.6<br>3s 1/8.3<br>pf <sup>^</sup> 1/8.3<br>hvb 1/8.3 | bf 8/21.6<br>cp <sup>*</sup> 5/13.5<br>cp <sup>^</sup> 5/13.5<br>ved 4/10.8<br>ng <sup>*</sup> 4/10.8<br>mb <sup>*</sup> 3/8.1<br>ir 2/5.4<br>mn <sup>*</sup> 2/5.4<br>pg <sup>^</sup> 2/5.4<br>mn <sup>^</sup> 1/2.7<br>hdb 1/2.7 | bf 7/22.5<br>mb <sup>*</sup> 5/16.1<br>cp <sup>^</sup> 4/12.9<br>cp <sup>*</sup> 3/9.6<br>ir 2/6.4<br>ved 2/6.4<br>mb <sup>^</sup> 2/6.4<br>pg <sup>^</sup> 2/6.4<br>ng <sup>^</sup> 1/3.2<br>3s 1/3.2<br>ng <sup>*</sup> 1/3.2<br>pg <sup>*</sup> 1/3.2 | bf 7/50<br>cp <sup>*</sup> 3/21.4<br>ir 2/14.2<br>ng <sup>^</sup> 1/7.1<br>hvb 1/7.1  | cp <sup>^</sup> 8/20<br>ir 7/17.5<br>bf 6/15<br>ved 5/12.5<br>cp <sup>*</sup> 4/10<br>mb <sup>*</sup> 3/7.5<br>pf <sup>^</sup> 2/5<br>ng <sup>^</sup> 1/2.5<br>3s 1/2.5<br>mn <sup>*</sup> 1/2.5<br>mn <sup>^</sup> 1/2.5<br>pf <sup>*</sup> 1/2.5 | bf 8/30.7<br>cp <sup>*</sup> 8/30.7<br>ir 3/11.5<br>mb <sup>^</sup> 3/11.5<br>cp <sup>^</sup> 1/3.8<br>ved 1/3.8<br>bf 1/3.1<br>pf <sup>^</sup> 1/3.8<br>pg <sup>*</sup> 1/3.8               | ir 7/21.8<br>cp <sup>*</sup> 7/21.8<br>cp <sup>^</sup> 7/21.8<br>ved 2/6.2<br>mb <sup>*</sup> 2/6.2<br>bf 1/3.1<br>mn <sup>*</sup> 1/3.1<br>pf <sup>^</sup> 1/3.1<br>pg <sup>^</sup> 1/3.1<br>pf <sup>*</sup> 1/3.1<br>pn <sup>^</sup> 1/3.1<br>lnng <sup>^</sup> 1/3.1 | ir 10/31.2<br>cp <sup>*</sup> 7/21.8<br>cp <sup>^</sup> 4/12.5<br>mb <sup>^</sup> 3/9.3<br>pf <sup>^</sup> 2/6.3<br>pg <sup>^</sup> 2/6.3<br>ved 1/3.1<br>mb <sup>*</sup> 1/3.1<br>mn <sup>^</sup> 1/3.1<br>pf <sup>*</sup> 1/3.1 | cp <sup>*</sup> 13/28.2<br>ir 9/19.6<br>cp <sup>^</sup> 8/17.4<br>bf 4/8.7<br>ved 3/6.5<br>mb <sup>*</sup> 3/6.5<br>mb <sup>^</sup> 2/4.3<br>hdb 2/4.3<br>pf <sup>^</sup> 1/2.2<br>ng <sup>*</sup> 1/2.2                                      | cp <sup>^</sup> 13/27.6<br>ir 11/23.4<br>bf 6/12.7<br>ved 3/6.4<br>mb <sup>*</sup> 3/6.4<br>pf <sup>^</sup> 3/6.4<br>mb <sup>^</sup> 2/4.3<br>cns <sup>^</sup> 2/4.3<br>cp <sup>*</sup> 1/2.1<br>ng <sup>^</sup> 1/2.1<br>mn <sup>*</sup> 1/2.1<br>pn <sup>^</sup> 1/2.1<br>pvpf <sup>^</sup> 1/2.3 | ir 11/25<br>cp <sup>^</sup> 9/20.4<br>cp <sup>*</sup> 4/9<br>pf <sup>^</sup> 4/9<br>bf 3/6.8<br>ved 3/6.8<br>mb <sup>*</sup> 2/4.5<br>hdb 2/4.5<br>cns <sup>^</sup> 2/4.5<br>mb <sup>^</sup> 1/2.3<br>pf <sup>*</sup> 1/2.3<br>pn <sup>^</sup> 1/2.3<br>pvpf <sup>^</sup> 1/2.3 | bf 10/23.2<br>cp <sup>^</sup> 9/20.9<br>ir 8/18.6<br>cp <sup>*</sup> 4/9.3<br>mb <sup>*</sup> 4/9.3<br>mb <sup>^</sup> 4/9.3<br>ved 1/2.3<br>hdb 2/4.5<br>cns <sup>^</sup> 2/4.5<br>mn <sup>^</sup> 1/2.3<br>hdb 1/2.3 | bf 8/19<br>ved 7/16.6<br>ir 6/14.2<br>cp <sup>^</sup> 6/14.2<br>pf <sup>^</sup> 4/9.5<br>ps <sup>*</sup> 3/7.1<br>cp <sup>*</sup> 2/4.8<br>mb <sup>*</sup> 2/4.8<br>ng <sup>^</sup> 1/2.4<br>3s 1/2.4<br>mb <sup>^</sup> 1/2.4<br>3sn 1/2.4 | cp <sup>^</sup> 13/38.2<br>bf 6/17.6<br>ir 5/14.7<br>cp <sup>*</sup> 3/8.8<br>ved 2/5.8<br>3s 2/5.8<br>mb <sup>^</sup> 1/2.9<br>mb <sup>^</sup> 1/2.9<br>mn <sup>^</sup> 1/2.9 |
| S8    | Fore-ground | nf   | ir 5/45.4<br>bf 2/18.1<br>cp <sup>^</sup> 1/9.1<br>ved 1/9.1<br>mb <sup>*</sup> 1/9.1<br>3s 1/9.1  | bf 8/44.4<br>ir 4/22.2<br>cp <sup>*</sup> 4/22.2<br>ved 2/11.1   | bf 3/42.8<br>ir 2/28.5<br>ved 1/14.2<br>mb <sup>*</sup> 1/14.2  | nf   | bf 5/62.5<br>ir 3/37.5   | ir 2/40<br>bf 1/20<br>cp <sup>*</sup> 1/20<br>cp <sup>^</sup> 1/20  | bf 8/53.3<br>ir 5/33.3<br>ved 2/13.3  | ir 3/37.5<br>bf 3/37.5<br>ved 1/12.5<br>mb <sup>^</sup> 1/12.5  | bf 1/50<br>mb <sup>^</sup> 1/50   | ir 2/33.3<br>bf 2/33.3<br>cp <sup>^</sup> 1/16.6<br>mb <sup>*</sup> 1/16.6  | ved 2/40<br>ir 1/20<br>bf 1/20<br>mn <sup>*</sup> 1/20   | bf 4/40<br>ir 3/30<br>ved 2/20<br>cp <sup>^</sup> 1/10  | bf 10/47.6<br>ir 7/33.3<br>ved 2/9.5<br>cp <sup>*</sup> 1/4.7<br>cp <sup>^</sup> 1/4.7   |
|       | Back-ground | ir 2/28.5<br>bf 2/28.5<br>mb <sup>*</sup> 2/28.5<br>mn <sup>^</sup> 1/14.2                         | bf 8/36.3<br>ir 6/27.2<br>cp <sup>*</sup> 3/13.6<br>cp <sup>^</sup> 2/9<br>mb <sup>*</sup> 2/9<br>mb <sup>^</sup> 1/4.5  | ir 2/18.1<br>bf 2/18.1<br>cp <sup>*</sup> 2/18.1<br>cp <sup>^</sup> 1/9<br>ved 1/9<br>mb <sup>^</sup> 1/9<br>pg <sup>^</sup> 1/9<br>ng <sup>*</sup> 1/9  | ir 6/27.2<br>cp <sup>*</sup> 6/27.2<br>bf 3/13.6<br>igm <sup>*</sup> 2/9<br>ved 1/4.5<br>mb <sup>^</sup> 1/4.5<br>ng <sup>*</sup> 1/4.5<br>pg <sup>*</sup> 1/4.5<br>ng <sup>^</sup> 1/4.5 | cp <sup>*</sup> 8/42.1<br>ir 4/21<br>bf 2/10.5<br>3s 2/10.5<br>ved 1/5.2<br>mb <sup>*</sup> 1/5.2<br>mn <sup>^</sup> 1/5.2   | cp <sup>^</sup> 5/27.7<br>bf 3/16.6<br>ved 3/16.6<br>ir 2/11.1<br>cp <sup>^</sup> 1/6.2<br>cp <sup>*</sup> 2/11.1<br>mb <sup>*</sup> 1/5.5<br>mn <sup>^</sup> 1/5.5<br>pg <sup>*</sup> 1/5.5 | bf 6/37.5<br>ir 3/18.7<br>ved 2/12.5<br>cp <sup>^</sup> 1/6.2<br>3s 1/6.2<br>mn <sup>^</sup> 1/6.2<br>pf <sup>*</sup> 1/6.2<br>pg <sup>*</sup> 1/6.2  | bf 11/39.2<br>cp <sup>*</sup> 4/14.2<br>ir 3/10.7<br>cp <sup>^</sup> 3/10.7<br>mb <sup>^</sup> 2/7.1<br>lnng <sup>*</sup> 2/7.1<br>mb <sup>*</sup> 1/3.5<br>mn <sup>^</sup> 1/3.5<br>pvm <sup>^</sup> 1/3.5                       | ir 15/42.8<br>bf 9/25.7<br>cp <sup>^</sup> 3/8.5<br>cp <sup>*</sup> 2/5.7<br>cp <sup>^</sup> 3/14.2<br>ved 1/2.8<br>mb <sup>*</sup> 1/2.8<br>pf <sup>^</sup> 1/2.8<br>ng <sup>*</sup> 1/2.8<br>mn <sup>^</sup> 1/2.8<br>pf <sup>*</sup> 1/2.8 | ir 5/23.8<br>bf 5/23.8<br>cp <sup>*</sup> 5/23.8<br>cp <sup>^</sup> 3/14.2<br>ved 1/4.7<br>mb <sup>*</sup> 1/4.7<br>cns <sup>^</sup> 1/4.7  | ir 7/25.9<br>cp <sup>*</sup> 5/18.5<br>cp <sup>^</sup> 5/18.5<br>ved 5/18.5<br>mb <sup>*</sup> 2/7.4<br>bf 1/3.7<br>mb <sup>^</sup> 1/3.7<br>pg <sup>*</sup> 1/3.7  | bf 6/21.4<br>cp <sup>*</sup> 5/17.8<br>mb <sup>*</sup> 5/17.8<br>cp <sup>^</sup> 3/10.7<br>ved 3/10.7<br>ir 2/7.1<br>mb <sup>^</sup> 2/7.1<br>3s 1/3.5<br>pg <sup>*</sup> 1/3.5  | bf 14/29.1<br>ir 13/27<br>mb <sup>*</sup> 5/10.4<br>cp <sup>^</sup> 4/8.3<br>ved 4/8.3<br>cp <sup>*</sup> 3/6.2<br>mn <sup>*</sup> 2/4.2<br>ng <sup>*</sup> 1/2.1<br>cns <sup>^</sup> 1/2.1<br>ln <sup>*</sup> 1/2.1                        | bf 15/35.7<br>cp <sup>*</sup> 13/30.9<br>ir 3/7.1<br>ved 3/7.1<br>cp <sup>^</sup> 2/4.7<br>mb <sup>*</sup> 2/4.7<br>mb <sup>^</sup> 2/4.7<br>3s 1/2.3<br>ng <sup>*</sup> 1/2.3 |

|       |             | (#/%)  |    |   |   |   |  |  |   |   |  |   |  |   |  |
|-------|-------------|--|----|---|---|---|--|--|---|---|--|---|--|---|--|
| Subj. | ES          | T1   | T2 | T3  | T4  | T5  | T6   | T7   | T8  | T9  | T10  | T11   | T12  | T13   | T14  |
| S9    | Fore-ground | nf   | nf | ir 8/53.3<br>bf 7/46.6  | bf 5/55.5<br>ir 4/44.4  | ir 8/47<br>ved 5/29.4<br>bf 2/11.7<br>cp <sup>^</sup> 1/5.8<br>pg <sup>^</sup> 1/5.8  | ir 7/50<br>ved 4/28.5<br>bf 3/21.4   | ir 7/38.8<br>bf 7/38.8<br>cp <sup>^</sup> 1/5.5<br>ved 1/5.5<br>ng <sup>^</sup> 1/5.5<br>pg <sup>^</sup> 1/5.5   | ir 14/70<br>ved 3/15<br>bf 2/10<br>mb <sup>^</sup> 1/5  | ir 8/57.1<br>bf 3/21.4<br>cp <sup>^</sup> 2/14.2<br>ved 1/7.1   | ir 9/56.2<br>bf 2/12.5<br>cp <sup>^</sup> 2/12.5<br>ved 2/12.5<br>ng <sup>^</sup> 1/6.2  | ir 7/50<br>bf 4/28.5<br>cp <sup>^</sup> 1/7.1<br>ved 1/7.1<br>hdb 1/7.1   | ir 5/45.4<br>bf 5/45.4<br>ved 1/9  | ir 4/36.3<br>bf 4/36.3<br>ved 3/27.2  | bf 11/28.2<br>ir 10/25.6<br>ved 10/25.6<br>cp <sup>^</sup> 2/5.1<br>ng <sup>^</sup> 2/5.1<br>ng <sup>^</sup> 2/5.1<br>mb <sup>^</sup> 1/2.5<br>mn <sup>^</sup> 1/2.5   |
|       | Back-ground | bf 5/31.2<br>mb <sup>^</sup> 3/18.7<br>ir 2/12.5<br>cp <sup>^</sup> 2/12.5<br>cp <sup>^</sup> 1/6.2<br>ng <sup>^</sup> 1/6.2<br>hdb 1/6.2<br>3sn 1/6.2 | nb | bf 4/44.4<br>ir 2/22.2<br>cp <sup>^</sup> 2/22.2<br>3sn 1/11.1  | cp <sup>^</sup> 7/26.9<br>ir 4/15.3<br>bf 3/11.5<br>ved 3/11.5<br>cp <sup>^</sup> 2/7.6<br>ng <sup>^</sup> 2/7.6<br>mb <sup>^</sup> 1/3.8<br>mn <sup>^</sup> 1/3.8<br>pg <sup>^</sup> 1/3.8<br>ln <sup>^</sup> 1/3.8<br>lnng <sup>^</sup> 1/3.8 | cp <sup>^</sup> 7/24.1<br>ir 5/17.2<br>bf 4/13.7<br>cp <sup>^</sup> 4/13.7<br>mb <sup>^</sup> 3/10.3<br>ng <sup>^</sup> 3/10.3<br>pg <sup>^</sup> 1/3.4<br>3s 1/2.6<br>pn <sup>^</sup> 1/3.4  | cp <sup>^</sup> 11/28.9<br>bf 9/23.6<br>cp <sup>^</sup> 6/15.7<br>ir 2/5.3<br>mb <sup>^</sup> 2/5.3<br>ng <sup>^</sup> 2/5.3<br>mb <sup>^</sup> 1/2.6<br>3s 1/2.6<br>pg <sup>^</sup> 1/2.6<br>cns <sup>^</sup> 1/2.6<br>igm <sup>^</sup> 1/2.6 | bf 7/25<br>cp <sup>^</sup> 6/21.4<br>ir 5/17.8<br>cp <sup>^</sup> 2/7.1<br>ng <sup>^</sup> 2/7.1<br>pg <sup>^</sup> 2/7.1<br>ng <sup>^</sup> 2/7.1<br>mb <sup>^</sup> 1/3.5<br>pcs 1/3.5 | cp <sup>^</sup> 11/34.3<br>bf 7/21.8<br>mb <sup>^</sup> 4/12.5<br>ir 2/6.2<br>cp <sup>^</sup> 2/6.2<br>ng <sup>^</sup> 2/6.2<br>pg <sup>^</sup> 1/3.1<br>ng <sup>^</sup> 1/3.1<br>pvm <sup>^</sup> 1/3.1<br>3ig 1/3.1 | bf 8/22.2<br>ir 5/13.8<br>cp <sup>^</sup> 5/13.8<br>mb <sup>^</sup> 5/13.8<br>3s 3/8.3<br>mn <sup>^</sup> 3/8.3<br>ved 2/5.5<br>cp <sup>^</sup> 1/2.8<br>ng <sup>^</sup> 1/2.8<br>mb <sup>^</sup> 1/2.8<br>pf <sup>^</sup> 1/2.8<br>pg <sup>^</sup> 1/2.8 | cp <sup>^</sup> 8/25.8<br>bf 6/19.3<br>ir 5/16.1<br>cp <sup>^</sup> 3/9.6<br>mb <sup>^</sup> 2/6.4<br>mn <sup>^</sup> 2/6.4<br>ved 1/3.2<br>mb <sup>^</sup> 1/3.2<br>pf <sup>^</sup> 1/3.2<br>igm <sup>^</sup> 1/3.2 | ir 8/28.5<br>bf 8/28.5<br>cp <sup>^</sup> 3/10.7<br>ved 2/7.1<br>cp <sup>^</sup> 1/3.6<br>mb <sup>^</sup> 1/3.6<br>ng <sup>^</sup> 1/3.6<br>3s 1/3.6<br>mb <sup>^</sup> 1/3.6<br>mn <sup>^</sup> 1/3.6<br>pf <sup>^</sup> 1/3.6 | bf 8/25<br>ir 6/18.7<br>cp <sup>^</sup> 6/18.7<br>cp <sup>^</sup> 3/9.3<br>ved 1/9.3<br>mn <sup>^</sup> 2/6.2<br>ir 2/4<br>mb <sup>^</sup> 1/3.1<br>ng <sup>^</sup> 1/3.1<br>mb <sup>^</sup> 1/3.1<br>ng <sup>^</sup> 1/3.1<br>ig <sup>^</sup> 1/2 | bf 14/28<br>cp <sup>^</sup> 14/28<br>mb <sup>^</sup> 7/14<br>mn <sup>^</sup> 4/8<br>cp <sup>^</sup> 3/6<br>ir 2/4<br>ved 2/4<br>ng <sup>^</sup> 2/4<br>pn <sup>^</sup> 1/2<br>ig <sup>^</sup> 1/2 | cp <sup>^</sup> 10/26.3<br>ir 6/15.7<br>bf 6/15.7<br>ig <sup>^</sup> 4/10.5<br>cp <sup>^</sup> 3/7.9<br>ved 3/7.9<br>mb <sup>^</sup> 2/5.2<br>ng <sup>^</sup> 1/2.6<br>mb <sup>^</sup> 1/2.6<br>ng <sup>^</sup> 1/2.6<br>mn <sup>^</sup> 1/2.6 |
| S10   | Fore-ground | nf   | nf | ir 2/40<br>bf 1/20<br>cp <sup>^</sup> 1/20<br>mn <sup>^</sup> 1/20  | ir 1/50<br>bf 1/50  | ir 3/30<br>bf 3/30<br>cp <sup>^</sup> 1/10<br>ved 1/10<br>pf <sup>^</sup> 1/10<br>mn <sup>^</sup> 1/10  | ir 10/58.8<br>ved 3/17.6<br>bf 2/11.7<br>cp <sup>^</sup> 2/11.7  | nf   | ir 1/50<br>mn <sup>^</sup> 1/50   | nf  | nf   | bf 5/50<br>ir 3/30<br>cp <sup>^</sup> 1/10<br>mn <sup>^</sup> 1/10  | nf   | nf  | ir 9/100   |
|       | Back-ground | ir 3/37.5<br>cp <sup>^</sup> 2/25<br>cp <sup>^</sup> 1/12.5<br>mn <sup>^</sup> 1/12.5<br>cns <sup>^</sup> 1/12.5                                       | nb | ir 5/31.5<br>cp <sup>^</sup> 5/31.5<br>cp <sup>^</sup> 2/12.5<br>bf 1/6.2<br>3s 1/6.2<br>mn <sup>^</sup> 1/6.2<br>pf <sup>^</sup> 1/6.2 | cp <sup>^</sup> 4/26.6<br>ir 2/13.3<br>mb <sup>^</sup> 2/13.3<br>mn <sup>^</sup> 2/13.3<br>hdb 2/13.3<br>bf 1/6.6<br>ved 1/6.6<br>pf <sup>^</sup> 1/6.6   | ir 6/22.2<br>bf 4/14.8<br>cp <sup>^</sup> 3/11.1<br>cp <sup>^</sup> 3/11.1<br>ved 2/7.4<br>mb <sup>^</sup> 2/7.4<br>pf <sup>^</sup> 2/7.4<br>ng <sup>^</sup> 1/3.7<br>ng <sup>^</sup> 1/3.7<br>mn <sup>^</sup> 1/3.7<br>pn <sup>^</sup> 1/3.7 | ir 4/23.5<br>cp <sup>^</sup> 4/23.5<br>bf 3/17.6<br>ved 2/11.7<br>cp <sup>^</sup> 1/5.8<br>3s 1/5.8<br>mn <sup>^</sup> 1/5.8<br>igm <sup>^</sup> 1/5.8   | ir 7/31.8<br>ved 6/27.2<br>cp <sup>^</sup> 5/22.7<br>cp <sup>^</sup> 3/13.6<br>bf 1/4.5  | ir 10/40<br>cp <sup>^</sup> 5/20<br>bf 4/16<br>ved 3/12<br>mn <sup>^</sup> 2/8<br>cns 1/4   | ir 5/35.7<br>cp <sup>^</sup> 4/28.5<br>bf 1/7.1<br>cp <sup>^</sup> 1/7.1<br>ved 1/7.1<br>mb <sup>^</sup> 1/7.1<br>mn <sup>^</sup> 1/7.1   | ir 3/27.2<br>bf 2/18.1<br>cp <sup>^</sup> 1/09<br>cp <sup>^</sup> 1/09<br>ved 1/09<br>ng <sup>^</sup> 1/09<br>mn <sup>^</sup> 1/09<br>hdb 1/09   | bf 4/40<br>ir 1/10<br>cp <sup>^</sup> 1/10<br>ved 1/10<br>mb <sup>^</sup> 1/10<br>pf <sup>^</sup> 1/10<br>pf <sup>^</sup> 1/10  | ir 5/33.3<br>bf 4/26.6<br>cp <sup>^</sup> 3/20<br>cp <sup>^</sup> 1/6.6<br>ved 1/6.6<br>mb <sup>^</sup> 1/6.6  | ir 13/46.4<br>cp <sup>^</sup> 7/25<br>bf 4/14.2<br>mb <sup>^</sup> 2/7.1<br>ved 1/3.5<br>mn <sup>^</sup> 1/3.5  | ir 11/37.9<br>cp <sup>^</sup> 4/13.7<br>3s 3/10.3<br>pg <sup>^</sup> 3/10.3<br>bf 2/6.8<br>cp <sup>^</sup> 2/6.8<br>ng <sup>^</sup> 2/6.8<br>mb <sup>^</sup> 1/3.4<br>mb <sup>^</sup> 1/3.4  |

|       |             | #/% |  |    |   |   |   |   |   |  |   |   |  |   |   |  |
|-------|-------------|-----|--|----|---|---|---|---|---|--|---|---|--|---|---|--|
| Subj. | DF          | ES  | T1   | T2 | T3  | T4  | T5  | T6  | T7  | T8   | T9  | T10   | T11  | T12   | T13   | T14  |
| S11   | Fore-ground |     | bf 3/60<br>ir 2/40   | nf | nf  | nf  | bf 11/55<br>ir 4/20<br>ved 3/15<br>cp* 2/10   | ir 11/40.7<br>bf 10/37<br>ved 3/11.1<br>cp* 1/3.7<br>mb*1/3.7<br>mb^1/3.7         | bf 15/46.8<br>ir 9/28.1<br>cp* 2/6.2<br>cp^ 2/9.5<br>ved 1/3.1<br>mb^1/3.1<br>cns*1/3.1<br>pfc*1/3.1      | bf 9/42.8<br>ved 5/23.8<br>ir 2/9.5<br>cp* 2/9.5<br>cp^ 2/9.5<br>mb^1/4.7  | bf 9/40.9<br>ir 6/27.2<br>hvb 2/9<br>cp* 1/4.5<br>cp^ 1/4.5<br>ved 1/4.5<br>pg^ 1/4.5<br>hdb 1/4.5                          | bf 25/64<br>ir 8/20.5<br>cp* 2/5.1<br>ved 2/5.1<br>cp^ 1/2.5<br>mb*1/2.5  | bf 4/50<br>ir 2/25<br>cp^ 1/12.5<br>3s 1/12.5  | bf 5/35.7<br>ir 3/21.4<br>cp* 3/21.4<br>ved 1/7.1<br>3s 1/7.1<br>pg* 1/7.1  | ir 3/42.8<br>bf 3/42.8<br>3s 1/14.2   | bf 6/33.3<br>ir 4/22.2<br>cp* 2/11.1<br>ved 2/11.1<br>cp^ 1/5.5<br>mb* 1/5.5<br>mb^ 1/5.5<br>pf^ 1/5.5   |
|       | Back-ground |     | cp*12/40<br>bf 7/23<br>ng* 4/13.3<br>ir 3/10<br>cp^ 2/6.6<br>mb* 1/3.3<br>3s 1/3.3 | nb | bf 22/30.9<br>cp*15/21.1<br>ved 6/8.4<br>ng* 6/8.4<br>cp^ 5/7<br>ir 4/5.6<br>mb^ 3/4.2<br>ng^ 2/2.8<br>mn* 2/2.8<br>mb* 1/1.4<br>pf^ 1/1.4<br>pf* 1/1.4<br>hvb 1/1.4<br>pvm*1/1.4<br>pfc* 1/1.4 | bf 22/30.9<br>cp*15/21.1<br>ved 6/8.4<br>ng* 6/8.4<br>cp^ 5/7<br>ir 4/5.6<br>mb^ 3/4.2<br>ng^ 2/2.8<br>mn* 2/2.8<br>mb* 1/1.4<br>pf^ 1/1.4<br>pf* 1/1.4<br>hvb 1/1.4<br>pvm*1/1.4<br>pfc* 1/1.4 | cp* 9/25.7<br>bf 8/22.8<br>ir 7/20<br>cp^ 3/8.5<br>ved 2/5.7<br>mb*1/2.8<br>3s 1/2.8<br>mn*1/2.8<br>ng* 1/2.8<br>pg* 1/2.8<br>hdb 1/2.8 | bf 20/50<br>cp*10/25<br>mb*4/10<br>cp^ 3/7.5<br>ir 1/2.5<br>3s 1/2.5<br>cns*1/2.5 | bf 28/31.4<br>cp*21/23.5<br>mb*11/12.3<br>ir 7/7.9<br>cp^ 4/8.1<br>mb*2/4<br>3s 2/4<br>pf^ 1/2<br>ln* 1/2 | bf 25/33.3<br>cp*20/26.6<br>cp^ 8/10.6<br>ir 7/9.3<br>cp^ 5/13.8<br>mb* 4/5.3<br>mb^ 3/4<br>mn* 3/4<br>ved 2/2.6<br>pg* 2/2.6<br>pvm*1/1.3 | bf 12/33.3<br>cp* 8/22.2<br>ir 7/19.4<br>cp^ 5/13.8<br>ved 2/5.4<br>mb* 1/2.7<br>hdb 1/2.7                                  | cp* 9/25.7<br>bf 8/22.8<br>mb*5/14.3<br>mn*5/14.3<br>cp^ 3/8.6<br>ir 1/2.8<br>ved 1/2.8<br>ng^ 1/2.8<br>mb^1/2.8<br>ng* 1/2.8 | cp*14/35.8<br>bf 8/20.5<br>ir 5/12.8<br>mb*5/12.8<br>cp^ 2/5.1<br>ved 1/2.5<br>3s 1/2.5<br>ng* 1/2.5<br>pg* 1/2.5<br>cns*1/2.5 | bf 11/33.3<br>cp* 6/18.1<br>ir 4/12.1<br>cp^ 3/9<br>ved 1/3<br>mb* 1/3<br>ng^ 1/3<br>3s 1/3<br>mb^ 1/3<br>mn* 1/3<br>ng* 1/3<br>pf* 1/3<br>cns* 1/3 | ved 5/20.8<br>mb*4/16.6<br>bf 3/12.5<br>cp* 2/8.3<br>mn* 4/6.6<br>cns* 2/8.3<br>3s 1/4.2<br>mb^ 1/4.2<br>mn* 1/4.2<br>ng* 1/4.2<br>hdb 1/4.2<br>pvm*1/4.2 | bf 17/27.8<br>cp*12/19.6<br>ir 9/14.7<br>mb* 6/9.8<br>mn* 4/6.6<br>cp^ 3/4.9<br>mb^ 3/4.9<br>pvm*2/3.3<br>ved 1/1.6<br>3s 1/1.6<br>pf^ 1/1.6<br>cns* 1/1.6<br>lnng*1/1.6 |
| S12   | Fore-ground |     | nf   | nf | ir 3/50<br>ved 3/50   | nf  | nf  | ir 6/60<br>bf 2/30<br>ved 2/30  | nf  | nf   | bf 1/33.3<br>ved 2/66.6   | nf  | ir 2/40<br>bf 1/20<br>cp* 1/20<br>ps* 1/20   | ir 1/100  | nf  | ir 1/50<br>ved 1/50  |
|       | Back-ground |     | cp* 4/36.3<br>bf 3/27.2<br>cp^ 2/18.1<br>ved 2/18.1                                | nb | cp* 4/23.5<br>ir 3/17.6<br>bf 3/17.6<br>cp^ 1/5.9<br>ved 1/5.9<br>mb* 1/5.9<br>ng^ 1/5.9<br>hdb 1/5.9<br>cns^ 1/5.9<br>igm* 1/5.9   | bf 9/352<br>ir 5/294<br>cp* 2/111<br>ved 1/058<br>ng^1/058<br>mb^1/058<br>hdb 1/058   | cp*11/35.4<br>bf 9/29<br>ir 5/16.1<br>cp^ 2/6.4<br>3rd 2/6.4<br>pg* 2/6.4   | ir 3/21.4<br>bf 3/21.4<br>ved 3/21.4<br>cp* 2/14.2<br>mb*2/14.2<br>cp^ 1/7.1      | cp^11/34.3<br>ir 10/31.2<br>bf 5/15.6<br>cp* 2/6.2<br>ved 1/3.1<br>mb^1/3.1<br>ng* 1/3.1<br>pf* 1/3.1     | cp^ 8/36.3<br>ir 5/22.7<br>bf 3/13.6<br>ved 2/9<br>ng^ 2/9<br>3s 1/4.5<br>mb^ 1/4.5  | bf 5/21.7<br>cp^ 4/17.4<br>mb*4/17.4<br>ir 3/13<br>ng^ 2/8.7<br>cp* 1/4.3<br>ved 1/4.3<br>mb^1/4.3<br>mn*1/4.3<br>hdb 1/4.3 | bf 4/21<br>cp^ 4/21<br>cp* 3/15.7<br>ng^ 3/15.7<br>ir 2/10.5<br>ved 2/10.5<br>mb^ 1/5.2                                       | cp* 5/21.7<br>cp^ 4/17.4<br>ved 3/13<br>bf 2/8.7<br>mb* 2/8.7<br>ng^ 2/8.7<br>pf* 2/8.7<br>ir 1/4.3<br>mb^ 1/4.3<br>cns* 1/4.3 | ir 8/34.7<br>cp* 4/17.3<br>bf 2/8.7<br>cp^ 2/8.7<br>ved 2/8.7<br>mb*2/8.7<br>ng^ 1/4.3<br>pf* 1/4.3<br>ln* 1/4.3                                    | cp^ 7/31.8<br>ir 5/22.7<br>bf 4/18.1<br>ved 2/9<br>cp* 1/4.5<br>mb*1/4.5<br>ng^ 1/4.5<br>pf^ 1/4.5  | ir 7/22.5<br>cp^ 7/22.5<br>cp* 4/12.9<br>bf 2/6.4<br>ved 2/6.4<br>pf^ 2/6.4<br>mb* 1/3.2<br>ng^ 1/3.2<br>3s 1/3.2<br>pg^ 1/3.2<br>cns^ 1/3.2<br>pn* 1/3.2<br>pvm* 1/3.2  |

(#/%)

| Subj. | ES<br>DF    | T1  | T2  | T3  | T4  | T5  | T6   | T7  | T8  | T9   | T10   | T11  | T12  | T13   | T14   |
|-------|-------------|---|---|---|---|---|--|---|---|--|---|--|--|---|---|
| S13   | Fore-ground | nf  | ir 3/100  | nf  | ir 1/33.3<br>ved 1/33.3<br>hdb 1/33.3   | ir 6/40<br>bf 5/33.3<br>ved 2/13.3<br>cp* 1/6.6<br>pg^ 1/6.6  | ir 2/66.6<br>ved 1/33.3  | ir 5/83.3<br>ved 1/16.6   | ir 2/100  | nf   | nf  | ir 8/66.6<br>bf 3/25<br>ng^ 1/8.3  | ir 1/50<br>bf 1/50   | ir 4/100  | ir 2/50<br>bf 2/50  |
|       | Back-ground | cp* 2/50<br>ir 1/25<br>cp^ 1/25                         | bf 12/37.5<br>cp* 8/25<br>ir 3/9.3<br>mb* 2/6.2<br>3s 2/6.2<br>mn^ 2/6.2<br>cp^ 1/3.1<br>mn* 1/3.1<br>ng* 1/3.1 | cp* 10/37<br>ir 6/22.2<br>cp^ 4/14.8<br>bf 2/7.4<br>cns* 2/7.4<br>ved 1/3.7<br>ng^ 1/3.7<br>mn* 1/3.7 | ir 4/23.5<br>bf 3/17.6<br>cp* 2/11.7<br>cp^ 2/11.7<br>ved 2/11.7<br>ng^ 2/11.7<br>mn^ 1/5.8<br>cns* 1/5.8                                     | ir 10/29.4<br>cp* 7/20.5<br>bf 4/11.7<br>cp^ 4/11.7<br>ved 2/5.8<br>mb* 1/2.9<br>ng^ 1/2.9<br>3s 1/2.9<br>mn^ 1/2.9<br>pg* 1/2.9<br>cns* 1/2.9<br>hvb 1/2.9 | cp* 7/70<br>pg* 2/20<br>ir 1/10  | bf 9/33.3<br>ir 7/25.9<br>cp* 4/14.8<br>cp^ 2/7.4<br>mb* 2/7.4<br>ng^ 2/7.4<br>ln* 1/3.7  | bf 7/38.8<br>ir 4/22.2<br>cp* 3/16.6<br>cp^ 3/16.6<br>pg^ 1/5.5   | cp* 15/55.5<br>bf 5/18.5<br>cp^ 2/7.4<br>mb* 1/3.7<br>3s 1/3.7<br>ng* 1/3.7<br>pg* 1/3.7<br>cns* 1/3.7                           | bf 4/66.6<br>ir 1/16.6<br>ng^ 1/16.6  | ir 10/26.3<br>cp* 9/23.6<br>bf 8/21<br>mb* 4/10.4<br>cp^ 1/2.6<br>ved 1/2.6<br>ng^ 1/2.6<br>3s 1/2.6<br>mb^ 1/2.6<br>mn^ 1/2.6<br>pcs* 1/2.6 | ir 14/28<br>cp* 12/24<br>bf 11/22<br>cp^ 6/12<br>mb* 3/6<br>ng^ 2/4<br>ved 1/2<br>ng* 1/2            | ir 11/33.3<br>cp* 7/21.2<br>bf 5/15.1<br>ng^ 4/12.1<br>cp^ 2/6<br>ved 2/6<br>mb* 1/3<br>mn* 1/3   | bf 21/45.6<br>ir 13/28.2<br>cp* 9/19.5<br>mb* 2/4.3<br>mb* 1/2.1  |
| S14   | Fore-ground | nf  | ir 5/35.7<br>bf 5/35.7<br>ved 2/14.2<br>mb^ 1/7.1<br>mn* 1/7.1  | ir 8/50<br>bf 2/12.5<br>cp* 2/12.5<br>ved 1/6.2<br>hdb 1/6.2  | ir 3/50<br>bf 1/16.6<br>cp^ 1/16.6<br>ved 1/16.6  | ir 5/100  | bf 7/58.3<br>ir 4/33.3<br>ved 1/8  | ir 4/25<br>bf 4/25<br>cp* 2/12.5<br>ved 2/12.5<br>mb* 1/6.2<br>ng^ 1/6.2<br>mn* 1/6.2<br>mn^ 1/6.2  | nf  | bf 4/50<br>ir 2/25<br>mb* 2/25   | nf  | ir 2/50<br>bf 2/50   | ir 3/333<br>bf 2/222<br>cp* 2/222<br>mb* 1/111<br>pf* 1/111  | bf 4/44.4<br>ir 3/33.3<br>ved 1/11.1<br>mb^ 1/11.1  | ir 1/50<br>cp^ 1/50   |
|       | Back-ground | bf 5/45.4<br>mn* 3/27.2<br>ir 1/9<br>mb^ 1/9<br>pf* 1/9 | cp* 4/33.3<br>ir 3/25<br>cp^ 2/16.6<br>bf 1/8.3<br>pg^ 1/8.3<br>pf* 1/8.3                                       | ir 5/33.3<br>cp^ 4/26.6<br>cp* 2/133<br>pg* 2/133<br>bf 1/066<br>mn* 1/066                            | bf 5/20.8<br>mb^ 5/20.8<br>cp* 4/16.6<br>cp^ 2/8.3<br>pg* 2/8.3<br>ir 1/4.2<br>ved 1/4.2<br>mb* 1/4.2<br>pg^ 1/4.2<br>pf* 1/4.2<br>pcs* 1/4.2 | cp* 10/38.4<br>bf 6/23<br>ir 3/11.5<br>mb* 2/7.6<br>3s 2/7.6<br>cp^ 1/3.8<br>pg^ 1/3.8<br>pf* 1/3.8   | bf 18/38.3<br>ir 8/17<br>cp* 7/14.8<br>cns* 3/6.4<br>mb* 2/4.2<br>mb^ 2/4.2<br>mn* 2/4.2<br>pf* 2/4.2<br>cp^ 1/2.1<br>ved 1/2.1<br>pf^ 1/2.1 | ir 6/22.2<br>cp^ 4/14.8<br>cp* 3/11.1<br>bf 2/7.4<br>pf* 4/10.8<br>ir 3/8.1<br>mb* 2/5.4<br>cp^ 1/2.7<br>ng^ 1/2.7<br>3s 1/2.7<br>mn^ 1/3.7<br>pf* 1/3.7<br>cns^ 1/3.7<br>pvm* 1/3.7<br>pc^ 1/3.7 | cp* 10/27<br>bf 9/24.3<br>mn* 4/10.8<br>pf* 4/10.8<br>ir 3/8.1<br>mb* 2/5.4<br>cp^ 1/2.7<br>ng^ 1/2.7<br>3s 1/2.7<br>mb^ 1/2.7<br>ln* 1/2.7 | cp* 8/30.7<br>mb* 5/19.2<br>pf* 3/11.5<br>ir 2/7.7<br>bf 2/7.7<br>mb* 2/7.7<br>cp^ 1/3.8<br>pg^ 1/3.8<br>hvb 1/3.8<br>pcs* 1/3.8 | bf 16/41<br>mb* 6/15<br>ir 5/12.8<br>cp* 4/10.2<br>cp^ 2/5.1<br>ved 1/2.6<br>3s 1/2.6<br>ng* 1/2.6<br>pf^ 1/2.6<br>pf* 1/2.6<br>hdb 1/2.6 | bf 16/34<br>ir 8/17<br>cp* 7/14.8<br>mb* 6/12.7<br>cp^ 4/8.5<br>pf* 2/4.2<br>ved 1/2.1<br>ng^ 1/2.1<br>mn* 1/2.1<br>pf* 1/2.1                | cp* 20/344<br>ir 14/242<br>bf 9/155<br>mb* 8/137<br>cp^ 3/051<br>ved 2/034<br>pf^ 1/017<br>hdb 1/017 | bf 8/20.5<br>cp* 7/17.9<br>ir 5/12.8<br>cp^ 5/12.8<br>ved 3/7.6<br>mb* 3/7.6<br>ng^ 2/5.1<br>mb^ 2/5.1<br>3s 1/2.6<br>pf* 1/2.6<br>cns^ 1/2.6<br>pcs* 1/2.6 | cp* 22/40.7<br>ir 6/11.1<br>cp^ 6/11.1<br>ved 6/11.1<br>bf 4/7.4<br>3s 2/3.7<br>pg^ 2/3.7<br>mb* 1/1.8<br>mn* 1/1.8<br>pf* 1/1.8<br>cns* 1/1.8<br>pc* 1/1.8<br>pcs* 1/1.8 |

|       |             | (H%)   |   |  |   |   |  |  |  |  |  |  |  |  |   |
|-------|-------------|--|---|--|---|---|--|--|--|--|--|--|--|--|---|
| Subj. | DF ES       | T1   | T2  | T3   | T4  | T5  | T6   | T7   | T8   | T9   | T10  | T11  | T12  | T13  | T14   |
| S15   | Fore-ground | ir 4/50<br>bf 1/12.5<br>cp^ 1/12.5<br>ved 1/12.5<br>pg^ 1/12.5 | bf 3/100  | ir 3/75<br>mb* 1/25  | bf 6/35.2<br>ir 4/23.5<br>cp* 2/11.7<br>cp^ 1/5.9<br>ved 1/5.9<br>mb* 1/5.9<br>mn* 1/5.9<br>hvb 1/5.9           | ir 12/36.3<br>bf 9/27.2<br>ved 5/15.1<br>ng^ 3/9<br>cp* 1/3<br>3s 1/3<br>pf* 1/3<br>hvb 1/3                           | ir 13/52<br>bf 4/16<br>ved 4/16<br>mb* 1/4<br>3s 1/4<br>pf^ 1/4<br>pg* 1/4                                     | nf   | ir 9/64.2<br>bf 2/14.2<br>ved 2/14.2<br>mb* 1/7.1  | bf 9/45<br>ir 8/40<br>cp^ 1/5<br>ved 1/5<br>ng^ 1/5  | ir 8/29.6<br>bf 8/29.6<br>cp* 4/14.8<br>cp^ 3/11.1<br>3s 2/7.4<br>ved 1/3.7<br>ng^ 1/3.7                 | ir 7/58.3<br>bf 4/33.3<br>ved 1/8.3  | bf 15/44.1<br>ir 8/23.5<br>ved 4/11.7<br>cp^ 2/5.8<br>pg^ 2/5.8<br>mb* 1/2.9<br>3s 1/2.9<br>hdb 1/2.9  | bf 8/42.1<br>ir 7/36.8<br>hdb 2/10.5<br>ved 1/5.2<br>mb^ 1/5.2                                       | ir 11/57.8<br>bf 6/31.5<br>ved 2/10.5   |
|       | Back-ground | ir 3/30<br>bf 3/30<br>cp^ 2/20<br>cp* 1/10<br>mn^ 1/10         | cp* 5/33.3<br>ir 4/26.6<br>bf 4/26.6<br>cp^ 2/13.3              | bf 7/25.9<br>cp* 6/22.2<br>cp^ 3/11.1<br>ir 2/7.4<br>pg* 2/7.4<br>cns* 2/7.4<br>ved 1/3.7<br>ng^ 1/3.7<br>3s 1/3.7<br>pn* 1/3.7<br>pn^ 1/3.7 | bf 9/29<br>cp^ 9/29<br>ir 4/12.9<br>cp* 3/9.6<br>mn* 2/6.4<br>mb* 1/3.2<br>ng* 1/3.2<br>igm* 1/3.2<br>pn^ 1/3.2 | bf 25/43.1<br>cp* 11/18.9<br>ir 6/10.3<br>cp^ 6/10.3<br>mb* 5/8.6<br>ng^ 2/3.4<br>ved 1/1.7<br>mn* 1/1.7<br>pf* 1/1.7 | bf 15/30<br>cp* 13/26<br>ir 4/8<br>cp^ 4/8<br>mb* 4/8<br>ved 3/6<br>Inng* 3/6<br>mn^ 2/4<br>ng^ 1/2<br>ng* 1/2 | bf 23/35.9<br>cp* 18/28.1<br>ng^ 8/12.5<br>ir 4/6.2<br>ng* 4/6.2<br>cp^ 2/3.1<br>mb* 2/3.1<br>3s 1/1.5<br>mn* 1/1.5<br>pf^ 1/1.5 | bf 9/21.4<br>cp* 9/21.4<br>ir 4/9.5<br>cp^ 4/9.5<br>ved 4/9.5<br>mb* 4/9.5<br>ng^ 3/7.1<br>3s 1/2.4<br>mn* 1/2.4<br>ng* 1/2.4<br>pg* 1/2.4 | bf 11/28.9<br>cp* 8/21<br>ng^ 4/10.5<br>ir 3/7.9<br>pg^ 3/7.9<br>cp^ 2/5.3<br>mb* 2/5.3<br>ng* 2/5.3<br>ved 1/2.6<br>3s 1/2.6<br>hdb 1/2.6 | cp* 13/33.3<br>bf 12/30.7<br>ir 5/12.8<br>cp^ 4/10.2<br>ng^ 2/5.1<br>mb* 1/2.5<br>ng* 1/2.5<br>hvb 1/2.5 | cp* 18/31<br>bf 14/24.1<br>ir 5/8.6<br>ng* 5/8.6<br>ir 5/8.8<br>mb* 4/6.8<br>mn* 3/5.1<br>ng^ 2/3.4<br>hvb 2/3.4<br>cp^ 1/1.7<br>pg^ 1/1.7<br>pf^ 1/1.7<br>pg* 1/1.7<br>cns* 1/1.7 | bf 15/26.3<br>cp* 9/15.8<br>mb* 6/10.5<br>ir 5/8.8<br>cp^ 5/8.8<br>ved 3/5.3<br>ng^ 2/3.5<br>mn* 2/3.5<br>pf^ 2/3.5<br>ng* 2/3.5<br>3s 1/1.7<br>mb^ 1/1.7<br>hdb 1/1.7<br>Inng* 1/1.7<br>cn^ 1/1.7 | bf 18/40.9<br>cp* 14/31.8<br>ved 4/9<br>cp^ 2/4.5<br>mb* 2/4.5<br>mn* 2/4.5<br>ir 1/2.2<br>pf^ 1/2.2 | bf 20/28.6<br>cp* 16/22.8<br>ir 12/17.1<br>cp^ 6/8.6<br>mb* 5/7.1<br>cns* 3/4.3<br>ved 2/2.8<br>ng^ 2/2.8<br>mn* 1/1.4<br>pf^ 1/1.4<br>ng* 1/1.4<br>pc* 1/1.4 |
| S16   | Fore-ground | ir 5/50<br>bf 2/20<br>cp* 1/10<br>ved 1/10<br>3s 1/10          | ir 7/38.8<br>bf 6/33.3<br>cp* 2/11.1<br>ved 2/11.1<br>cp^ 1/5.5 | ir 2/40<br>pg^ 1/20  | ir 11/73.3<br>bf 2/13.3<br>cp^ 1/6.6<br>mb* 1/6.6   | ir 9/37.5<br>bf 7/29<br>ved 4/16.6<br>cp* 1/4.1<br>cp^ 1/4.1<br>mb^ 1/4.1<br>pg^ 1/4.1                                | ir 5/41.6<br>ved 2/16.6<br>cp* 1/8.3<br>mb* 1/8.3<br>ng^ 1/8.3<br>mb^ 1/8.3<br>ng* 1/8.3                       | ir 3/37.5<br>ved 2/25<br>ng^ 1/12.5<br>3s 1/12.5<br>pg^ 1/12.5   | ir 5/38.4<br>ved 4/30.7<br>bf 2/15.3<br>cp^ 1/7.6<br>pf^ 1/7.6   | bf 14/43.7<br>ir 10/31.2<br>ved 3/9.3<br>pg^ 3/9.3<br>cp^ 1/3.1<br>mb^ 1/3.1   | bf 8/40<br>ir 7/35<br>cp^ 3/15<br>cp* 1/5<br>pg^ 1/5   | nf   | nf   | nf   | ir 8/47<br>mb* 3/17.6<br>bf 2/11.7<br>cp* 2/11.7<br>ved 1/5.8<br>ng^ 1/5.8  |

| (H/#%) |             |  |   |   |  |   |   |  |   |   |  |  |   |  |  |  |
|--------|-------------|--|---|---|--|---|---|--|---|---|--|--|---|--|--|--|
| Subj.  | DF          | ES   | T1  | T2  | T3   | T4  | T5  | T6   | T7  | T8  | T9   | T10  | T11   | T12  | T13  | T14  |
| S16    | Back-ground |  | cp* 4/33.3<br>ir 3/25<br>cp^ 2/16.6<br>mb* 2/16.6<br>bf 1/8.3   | bf 10/25<br>ir 9/22.5<br>cp* 5/12.5<br>cp^ 4/10<br>mb* 2/5<br>mb^ 1/2.5<br>pf^ 1/2.5<br>pg^ 1/2.5<br>ng* 1/2.5<br>mn^ 1/2.5<br>hvb 1/2.5<br>pn* 1/2.5<br>pn^ 1/2.5<br>pc^ 1/2.5<br>pvm^ 1/2.5 | ir 6/24<br>cp* 4/16<br>mb* 4/16<br>bf 2/8<br>ved 2/8<br>ng* 2/8<br>cns* 2/8<br>lmg* 2/8<br>ng^ 1/4                             | ir 10/40<br>bf 4/16<br>ng^ 3/12<br>cp* 2/8<br>cp^ 2/8<br>mb* 1/4<br>3s 1/4<br>mn^ 1/4<br>pcs* 1/4   | cp^ 8/18.6<br>bf 6/13.9<br>cp* 6/13.9<br>ir 5/11.6<br>mb^ 3/7<br>mn* 3/7<br>ved 2/4.6<br>ng^ 2/4.6<br>ng* 2/4.6<br>cns^ 2/4.6<br>mb* 1/2.3<br>3s 1/2.3<br>pf^ 1/2.3<br>pvm^ 1/2.3 | bf 10/28.5<br>cp^ 8/22.8<br>cp* 4/11.4<br>mb* 4/11.4<br>ir 2/5.7<br>ved 2/5.7<br>3s 2/5.7<br>ng* 2/5.7<br>pf^ 1/2.8                            | bf 9/21.9<br>mb* 9/21.9<br>mb^ 5/12.2<br>ir 4/9.7<br>cp* 3/7.3<br>3s 2/4.9<br>ng* 2/4.9<br>cp^ 1/2.4<br>ved 1/2.4<br>ng^ 1/2.4<br>pf* 1/2.4<br>cns* 1/2.4<br>ig^ 1/2.4<br>pc* 1/2.4 | bf 8/24.2<br>cp^ 8/24.2<br>pg^ 4/12.1<br>ir 3/9.1<br>cp* 2/6.1<br>ved 2/6.1<br>mb* 2/6.1<br>cns^ 2/6.1<br>pf* 1/3<br>lmg* 1/3   | ir 6/21.4<br>cp* 6/21.4<br>bs 4/14.2<br>cp^ 3/10.7<br>mb* 2/7.1<br>ng^ 1/3.6<br>pf^ 1/3.6<br>ng* 1/3.6<br>pf* 1/3.6<br>pg* 1/3.6<br>hvb 1/3.6<br>pc* 1/3.6 | cp^ 5/26.3<br>ir 3/15.8<br>bf 2/10.5<br>mb* 2/10.5<br>pg^ 2/10.5<br>cp* 1/5.2<br>ng^ 1/5.2<br>mb^ 1/5.2<br>cns* 1/5.2<br>ig^ 1/5.2 | nb  | ir 27/42.8<br>bf 10/15.8<br>cp* 7/11.1<br>cp^ 4/6.3<br>mb* 4/6.3<br>ng^ 3/4.7<br>ved 2/3.1<br>ng* 2/3.1<br>3s 1/1.6<br>pf* 1/1.6<br>ig^ 1/1.6<br>cn^ 1/1.6 | bf 12/30<br>cp* 9/22.5<br>ir 6/15<br>mb* 5/12.5<br>cp^ 3/7.5<br>ved 1/2.5<br>ng^ 1/2.5<br>mn* 1/2.3<br>ng* 1/2.3<br>pg* 1/2.5<br>cns^ 1/2.5                | bf 12/27.9<br>cp* 9/20.9<br>ir 7/16.2<br>mb* 6/13.9<br>cp^ 5/11.6<br>ng^ 1/2.3<br>mn* 1/2.3<br>ng* 1/2.3<br>pvm* 1/2.3 |
| S17    | Fore-ground | bf 3/30<br>ved 2/20<br>ir 1/10<br>mb* 1/10<br>ng^ 1/10<br>pg^ 1/10<br>pf* 1/10 | ir 4/40<br>bf 2/20<br>pf^ 2/20<br>ved 1/10<br>mb^ 1/10  | bf 7/71.4<br>ir 2/28.5  | ir 6/33.3<br>bf 5/27.7<br>ved 5/27.7<br>pg^ 1/5.5<br>pg* 1/5.5   | ir 9/39.1<br>ved 6/26.1<br>bf 2/8.7<br>cp^ 2/8.7<br>ng^ 1/4.3<br>mb^ 1/4.3<br>pf^ 1/4.3<br>pg^ 1/4.3  | ir 7/41.2<br>ved 3/17.6<br>bf 2/11.7<br>ng^ 2/11.7<br>pf^ 1/5.8<br>pg^ 1/5.8<br>cns^ 1/5.8  | ir 13/59<br>ved 4/18.1<br>bf 2/9<br>pg^ 2/9<br>cp* 1/4.5   | ir 6/54.5<br>bf 1/9.1<br>cp* 1/9.1<br>cp^ 1/9.1<br>ved 1/9.1<br>ng^ 1/9.1   | ir 5/50<br>bf 3/30<br>ved 2/20  | ir 5/33.3<br>bf 4/26.6<br>mb* 2/13.3<br>cp* 1/6.6<br>ved 1/6.6<br>ng^ 1/6.6<br>hvb 1/6.6   | bf 5/38.4<br>ir 3/23<br>cp^ 2/15.3<br>ved 2/15.3<br>hvb 1/7.6  | ir 8/22.8<br>bf 8/22.8<br>ved 5/14.3<br>cp* 3/8.6<br>cp^ 3/8.6<br>3s 3/8.6<br>ng^ 1/2.8<br>mb^ 1/2.8<br>mn* 1/2.8<br>pf^ 1/2.8<br>pg^ 1/2.8 | ir 9/36<br>bf 5/20<br>ved 3/12<br>mb* 3/12<br>pg^ 2/8<br>cp^ 1/4<br>3s 1/4<br>pf^ 1/4  | ir 11/50<br>bf 3/13.6<br>ved 3/13.6<br>mb* 2/9<br>cp* 1/4.5<br>cp^ 1/4.5<br>mn* 1/4.5  |  |
|        | Back-ground | ir 3/37.5<br>bf 3/37.5<br>cp^ 1/12.5<br>mn* 1/12.5                             | ir 4/16<br>bf 4/16<br>cp* 3/12<br>cp^ 3/12<br>3s 3/12<br>ved 2/8<br>pf^ 2/8<br>mb* 1/4<br>ng^ 1/4<br>mb^ 1/4<br>hdb 1/4 | cp* 5/25<br>cp^ 5/25<br>ir 3/15<br>bf 3/15<br>mb* 2/10<br>ng^ 1/5<br>mn* 1/5  | bf 9/25<br>ir 7/19.4<br>ved 7/19.4<br>cp^ 5/13.8<br>cp* 2/5.5<br>mn^ 2/5.5<br>mb* 1/2.8<br>ng^ 1/2.8<br>pf^ 1/2.8<br>pn* 1/2.8 | ir 10/27.7<br>cp* 4/11.1<br>ng^ 4/11.1<br>cp^ 3/8.3<br>ved 3/8.3<br>mb* 3/8.3<br>pf* 2/5.5<br>cns^ 2/5.5<br>bf 1/2.8<br>mb* 1/2.8<br>mn^ 1/2.8<br>pg* 1/2.8<br>pvm^ 1/2.8 | ir 17/36.7<br>cp* 7/15.2<br>ved 5/10.8<br>bf 4/8.7<br>mb* 3/6.5<br>pg* 3/6.5<br>ng^ 2/4.3<br>cp^ 1/2.2<br>mn* 1/2.2<br>pg^ 1/2.2<br>mn^ 1/2.2<br>pf* 1/2.2                        | ir 10/28.5<br>cp^ 5/14.2<br>bf 4/11.4<br>ved 4/11.4<br>cp* 3/8.5<br>ng^ 3/8.5<br>mb* 2/5.7<br>mb^ 1/2.9<br>mn* 1/2.9<br>pf* 1/2.9<br>hdb 1/2.9 | cp* 6/24<br>ir 4/16<br>mb* 3/12<br>bf 2/8<br>cp^ 2/8<br>ved 2/8<br>3s 1/4<br>hvb 1/4<br>cns^ 1/4<br>lmg^ 1/4<br>cn^ 1/4   | cp^ 10/29.4<br>ir 7/20.6<br>cp* 4/11.7<br>ved 2/5.9<br>ng^ 2/5.9<br>mn^ 2/5.9<br>bf 1/2.9<br>ng^ 1/2.9<br>mb^ 1/2.9<br>pf^ 1/2.9<br>ln* 1/2.9<br>pcs* 1/2.9<br>lmg^ 1/2.9 | ir 9/25<br>bf 8/22.2<br>cp^ 4/11.1<br>ng^ 4/11.1<br>cp* 3/8.3<br>mb* 2/5.5<br>ved 1/2.8<br>mn* 1/2.8<br>pf^ 1/2.8<br>pg^ 1/2.8<br>hvb 1/2.8                | ir 9/32.1<br>bf 4/14.2<br>ng^ 4/14.2<br>cp^ 3/10.7<br>cp* 2/7.1<br>mb* 2/7.1<br>ved 1/3.6<br>pg^ 1/3.6<br>pf* 1/3.6<br>pvm* 1/3.6  | bf 5/17.2<br>cp* 5/17.2<br>ir 4/13.8<br>cp^ 4/13.8<br>ved 3/10.3<br>ng* 2/6.9<br>cns^ 2/6.9<br>mn* 1/3.4<br>pg^ 1/3.4<br>ig^ 1/3.4          | bf 4/23.5<br>ng^ 3/17.6<br>cp* 2/11.7<br>cp^ 2/11.7<br>ir 1/5.9<br>mb* 1/5.9<br>pg^ 1/5.9<br>hdb 1/5.9   | ir 10/27<br>cp* 8/21.6<br>bf 6/16.2<br>mb* 3/8.1<br>cp^ 2/5.4<br>pf^ 2/5.4<br>mn^ 1/2.7<br>pf* 1/2.7<br>cns* 1/2.7<br>hvb 1/2.7<br>ps* 1/2.7<br>pvm* 1/2.7 |  |

| Subj. | DF          | ES | T1  | T2  | T3  | T4   | T5  | T6   | T7  | T8   | T9  | T10   | T11  | T12   | T13   | T14  |
|-------|-------------|----|---|---|---|--|---|--|---|--|---|---|--|---|---|--|
| S18   | Fore-ground |    | bf 1/50<br>cp^1/50                                    | nf  | bf 8/88.8<br>ir 1/11.1  | nf   | nf  | bf 4/66.6<br>ir 2/33.3   | ir 4/40<br>bf 3/30<br>cp^ 1/10<br>ved 1/10<br>mb^1/10   | nf   | nf  | nf  | bf 4/57.1<br>ir 1/14.2<br>cp* 1/14.2<br>hvb 1/14.2   | bf 3/50<br>ir 1/16.6<br>pg^ 1/16.6<br>hvb 1/16.6  | bf 11/57.8<br>ir 7/36.8<br>cp* 1/5.2  | bf 14/100  |
|       | Back-ground |    | ir 1/25<br>bf 1/25<br>cp* 1/25<br>mb* 1/25            | ir 5/35.7<br>cp* 4/28.5<br>bf 2/14.2<br>cp^ 1/7.1<br>mb* 1/7.1<br>pf^ 1/7.1                           | cp* 12/52.1<br>bf 9/39.1<br>ir 1/4.3<br>pf* 1/4.3   | bf 7/33.3<br>cp* 5/23.8<br>ir 4/19<br>cns* 2/9.5<br>ng^ 1/4.7<br>ng* 1/4.7<br>hdb 1/4.7                          | bf 10/45.4<br>cp* 5/22.7<br>ir 4/18.1<br>3s 2/9<br>mb* 1/4.5  | cp*11/37.9<br>bf 10/34.4<br>ir 3/10.3<br>mb* 2/6.8<br>ved 1/3.4<br>ng^ 1/3.4<br>ng* 1/3.4  | cp* 7/30.4<br>bf 6/26<br>mb^3/13<br>ir 2/8.6<br>cp^ 1/4.3<br>3s 1/4.3<br>mb^ 1/4.3<br>ng^ 1/4.3<br>pg* 1/4.3  | cp* 8/33.3<br>bf 7/29.1<br>ir 3/12.5<br>mb* 2/8.3<br>mb^ 3/8.3<br>3s 2/5.5<br>ng* 1/2.7<br>pf* 1/4.1<br>cns* 1/4.1 | cp*15/41.6<br>bf 9/25<br>ir 3/8.3<br>mb* 3/8.3<br>3s 2/5.5<br>ng* 1/2.7<br>pf* 1/2.7<br>cns* 1/2.7<br>hvb 1/2.7   | bf 4/40<br>ir 2/20<br>mb* 2/20<br>mb^ 1/10<br>cns* 1/10   | bf 17/38.6<br>cp*13/29.5<br>ir 8/18.1<br>mb*3/6.8<br>pf* 2/4.5<br>hvb 1/2.2                          | bf 11/36.6<br>ir 8/26.6<br>cp* 7/23.3<br>ved 1/3.3<br>mb*1/3.3<br>pf^ 1/3.3<br>cns*1/3.3  | bf 8/34.7<br>cp* 8/34.7<br>mb*2/8.6<br>ir 1/4.3<br>ng* 1/4.3<br>hvb 1/4.3<br>ln* 1/4.3<br>pn* 1/4.3   | bf 19/47.5<br>cp* 11/27.5<br>ved 3/7.5<br>ir 2/5<br>pf^ 2/5<br>ng* 1/2.5<br>cns* 1/2.5<br>pfc* 1/2.5   |
| S19   | Fore-ground |    | ir 2/50<br>bf 1/25<br>mb* 1/25                        | nf  | nf  | nf   | ir 13/81.2<br>bf 2/12.5<br>ved 1/6.2  | ir 11/78.5<br>ved 2/14.2<br>bf 1/7.1   | ir 5/71.4<br>bf 2/28.5  | nf   | ir 7/70<br>bf 1/10<br>cp^ 1/10<br>mn* 1/10  | bf 7/58.3<br>ir 5/41.6  | ir 2/33.3<br>bf 2/33.3<br>cp*1/16.6<br>3s 1/16.6   | nf  | bf 3/42.8<br>ir 2/28.5<br>cp*2/28.5   | bf 5/50<br>ir 2/20<br>hdb 2/20<br>3s 1/10  |
|       | Back-ground |    | ir 3/30<br>bf 2/20<br>cp* 2/20<br>mb*2/20<br>cp^ 1/10 | bf 6/28.5<br>ir 3/14.3<br>cp* 3/14.3<br>mb*3/14.3<br>ved 2/9.5<br>hdb 2/9.5<br>cp^ 1/4.7<br>mb^ 1/4.7 | cp* 8/33.3<br>bf 7/29.1<br>ir 4/16.6<br>3s 1/4.2<br>mn* 1/4.2<br>ng* 1/4.2<br>cns* 1/4.2<br>ln* 1/4.2 | cp*10/45.4<br>ir 5/22.7<br>bs 1/4.5<br>cp^ 1/4.5<br>ved 1/4.5<br>mb* 1/4.5<br>3s 1/4.5<br>mb^ 1/4.5<br>pg* 1/4.5 | bf 9/19.1<br>cp* 9/19.1<br>ir 8/17.1<br>mb* 7/14.8<br>mn* 4/8.5<br>cp^ 2/4.2<br>3s 2/4.2<br>ved 1/2.1<br>ng* 1/2.1<br>mn^ 1/2.1<br>cns* 1/2.1<br>igm*1/2.1<br>pvm^1/2.1 | bf 17/25.3<br>cp*14/20.8<br>cp^11/16.4<br>ir 9/13.4<br>mb*7/10.4<br>pf^ 2/3<br>pg^ 2/3<br>igm*2/3<br>ved 1/1.5<br>mn* 1/1.5<br>nb* 1/1.5 | bf 15/25<br>cp* 12/20<br>ir 8/13.3<br>mb* 8/13.3<br>cp^ 5/8.3<br>ved 3/5<br>pf^ 3/5<br>pg^ 2/3.3<br>ng^ 1/1.6<br>mn* 1/1.6<br>pn* 1/1.6<br>pvmn*1/1.6 | bf 11/26.8<br>ir 8/19.5<br>cp* 7/17<br>cp^ 6/14.6<br>mb* 3/7.3<br>ved 2/4.8<br>pg^ 2/4.8<br>pf^ 1/2.4<br>mn^ 1/2.4 | cp* 8/18.6<br>ir 7/16.2<br>cp^ 7/16.2<br>bf 5/11.6<br>ved 4/9.3<br>mb^3/6.9<br>mb*2/4.6<br>pg^ 2/4.6<br>ng^ 1/2.3<br>3s 1/2.3<br>mn*1/2.3<br>pf* 1/2.3<br>pg* 1/2.3 | cp* 7/20<br>cp^ 6/17.1<br>mb*6/17.1<br>bf 5/14.2<br>ir 4/11.4<br>pg^ 2/5.7<br>ved 1/2.8<br>3s 1/2.8<br>mn* 1/2.8<br>cns^ 1/2.8<br>pn* 1/2.8 | cp* 19/52.7<br>bf 8/22.2<br>ved 2/5.5<br>mb* 2/5.5<br>3s 2/5.5<br>ir 1/2.7<br>cp^ 1/2.7<br>pg^ 1/2.7 | cp* 18/40<br>bf 8/17.7<br>mb* 4/8.8<br>cp^ 3/6.6<br>hdb 3/6.6<br>ir 2/4.4<br>pvm*2/4.4<br>ved 1/2.2<br>ns* 1/2.2<br>pf* 1/2.2<br>hvb 1/2.2<br>lnng* 1/2.2 | cp* 8/23.5<br>ir 6/17.6<br>cp^ 6/17.6<br>ns^ 3/8.8<br>cns*3/8.8<br>bf 2/5.8<br>hdb 2/5.8<br>ved 1/2.9<br>pf^ 1/2.9<br>mn^1/2.9<br>pf* 1/2.9 | cp*16/35.5<br>bf 8/17.7<br>ir 5/11.1<br>mb* 3/6.6<br>mn* 3/6.6<br>hdb 2/4.4<br>hvb 2/4.4<br>pvpf^2/4.4<br>ved 1/2.2<br>3s 1/2.2<br>pg* 1/2.2<br>ncs* 1/2.2 |
| S20   | Fore-ground |    | nf  | nf  | ir 5/62.5<br>bf 2/25<br>ns^ 1/12.5  | ir 4/80<br>bf 1/20   | ir 4/50<br>ved 3/37.5<br>bf 1/12.5  | ir 9/64.2<br>bf 2/14.2<br>ved 1/7.1<br>mb^1/7.1<br>mb^1/7.1  | bf 8/61.5<br>ir 5/38.4  | bf 3/50<br>ir 2/33.3<br>pf^ 1/16.6   | ved 7/36.8<br>ir 5/26.3<br>bf 3/15.7<br>cp* 1/5.2<br>cp^ 1/5.2<br>ng^ 1/5.2<br>mn^ 1/5.2  | ir 7/38.8<br>bf 4/22.2<br>ved 3/16.6<br>cp* 1/5.5<br>cp^ 1/5.5<br>ng^ 1/5.5<br>mb^1/5.5   | ir 7/43.7<br>bf 5/31.2<br>ved 2/12.5<br>pf^ 1/6.2<br>pg^ 1/6.2                                       | ir 3/37.5<br>bf 1/12.5<br>cp* 1/12.5<br>mb*1/12.5<br>ng^ 1/12.5<br>hdb 1/12.5   | bf 3/50<br>ir 2/33.3<br>ved 1/16.6  | ir 5/45.4<br>bf 3/27.2<br>ved 3/27.2   |

|       |             | ( #/ % )  |  |   |   |  |   |   |  |  |   |   |   |  |   |
|-------|-------------|---|--|---|---|--|---|---|--|--|---|---|---|--|---|
| Subj. | DF \ ES     | T1  | T2   | T3  | T4  | T5   | T6  | T7  | T8   | T9   | T10   | T11   | T12   | T13  | T14   |
| S20   | Back-ground | cp*3/33.3<br>ir 2/22.2<br>bf 1/11.1<br>cp^ 1/11.1<br>ved 1/11.1<br>pg^ 1/11.1 | bf 5/29.4<br>ir 4/23.5<br>cp^ 4/23.5<br>cp* 2/11.7<br>ved 1/5.8<br>Inng* 1/5.8 | ir 4/25<br>cp* 4/25<br>bf 3/18.7<br>cp^ 1/6.2<br>mb* 1/6.2<br>ng^ 1/6.2<br>ng* 1/6.2<br>pc* 1/6.2 | ir 9/30<br>cp* 7/23.3<br>bf 5/16.6<br>ved 4/13.3<br>pg^ 2/6.6<br>3s 1/3.3<br>hvb 1/3.3<br>pn* 1/3.3 | cp^ 7/26.9<br>ir 4/15.3<br>bf 3/11.5<br>cp* 3/11.5<br>ved 3/11.5<br>pg^ 2/7.6<br>ng* 2/7.6<br>pf^ 1/3.8<br>pf* 1/3.8 | ir 11/32.3<br>bf 7/20.5<br>cp* 6/17.6<br>mb* 4/11.7<br>ved 3/8.8<br>cp^ 1/2.9<br>pg* 1/2.9<br>ig^ 1/2.9 | ir 16/22.8<br>cp*16/22.8<br>bf 15/21.4<br>ved 6/8.5<br>mb* 6/8.5<br>cp^ 4/5.7<br>cns^ 2/2.8<br>ng^ 1/1.4<br>3s 1/1.4<br>pf* 1/1.4<br>pn* 1/1.4<br>Inng* 1/1.4 | ir 12/26.6<br>cp^ 9/20<br>bf 7/15.5<br>ved 5/11.1<br>cp* 4/8.8<br>ng^ 3/6.6<br>pf^ 2/4.4<br>mn^ 1/2.2<br>pg* 1/2.2<br>cns^ 1/2.2 | bf 10/33.3<br>cp* 6/20<br>ir 4/13.3<br>cp^ 3/10<br>ved 2/6.6<br>3s 2/6.6<br>pg^ 1/3.3<br>ng* 1/3.3<br>cns* 1/3.3 | bf 13/23.6<br>cp^ 9/16.3<br>cp* 8/14.5<br>ir 7/12.7<br>mb* 4/7.2<br>mn* 3/5.4<br>ng^ 2/3.6<br>ved 1/1.8<br>mb^ 1/1.8<br>mn^ 1/1.8<br>pg* 1/1.8<br>cns* 1/1.8<br>In* 1/1.8<br>ig^ 1/1.8<br>Inng* 1/1.8 | ir 20/39.2<br>bf 12/23.5<br>cp* 7/13.7<br>mb* 3/5.8<br>ved 2/3.9<br>mn* 3/7.6<br>ng* 2/3.9<br>cp^ 1/1.9<br>ng^ 1/1.9<br>mn* 1/1.9<br>In* 1/1.9<br>pc^ 1/1.9 | ir 10/25.6<br>cp* 9/23<br>bf 6/15.3<br>mb* 4/10.2<br>ved 2/3.9<br>mn* 3/7.6<br>ved 2/5.1<br>cp^ 1/2.6<br>ng^ 1/2.6<br>mn^ 1/2.6<br>cns* 1/2.6<br>pvm^ 1/2.6 | cp*11/36.6<br>ir 9/30<br>cp^ 4/13.3<br>ved 2/6.6<br>bf 1/3.3<br>mb* 1/3.3<br>pg^ 1/3.3<br>cns^ 1/3.3 | ir 13/22<br>bf 12/20.3<br>cp* 11/18.6<br>ved 11/18.6<br>cp^ 3/5.1<br>mb* 2/3.4<br>In* 2/3.4<br>pvm* 2/3.4<br>ng^ 1/1.7<br>pf^ 1/1.7<br>cns* 1/1.7 |



Table 26. Non-target Verb Forms used by Subjects to express Foreground and Background Information

| #/%   |             |                          |   |                           |                                   |  |   |  |  |  |  |  |  |  |  |
|-------|-------------|--------------------------|---|---------------------------|-----------------------------------|--|---|--|--|--|--|--|--|--|--|
| Subj. | DF\ES       | T1                       | T2  | T3                        | T4                                | T5   | T6  | T7                                     | T8   | T9   | T10                                    | T11  | T12  | T13  | T14  |
| S1    | Fore-ground | nf                       | -   | nf                        | -                                 | -  | -   | A(d)1/100                              | -  | A(d) 1/100   | A(d) 2/100                             | U(d)1/100  | -  | nf   | A(d) 2/100   |
|       | Back-ground | -                        | -   | A(d) 1/50<br>U(a) 1/50    | A(d) 1/50<br>U(k) 1/50            | A(c)2/66.6<br>C^ 1/33.3  | A(b) 1/50<br>A(a) 1/50                          | A(d) 2/50<br>A(c) 1/25<br>A(g) 1/25    | A(d) 2/66.6<br>V(a) 1/33.3   | A(d) 3/50<br>P(k) 1/16.6<br>U(j) 1/16.6<br>A(j) 1/16.6 | A(d)4/57.1<br>A(b)2/28.5<br>A(c)1/14.2 | A(d) 3/60<br>P(k) 1/20<br>U(j) 1/20  | A(d) 4/80<br>U(a) 1/20   | A(d) 3/75<br>U(a) 1/25   | A(d) 4/80<br>A(i) 1/20                                 |
| S2    | Fore-ground | -                        | A(d) 3/100                                    | -                         | V(a)1/100                         | A(d)4/100  | -   | -                                      | A(d)3/50<br>P(k) 2/33.3<br>U(d)1/16.6  | C*(b)1/100   | A(d)6/75<br>U(d) 1/25<br>U(i) 1/25     | A(d)6/66.6<br>P(k)1/11.1<br>C*(b) 1/<br>11.1<br>A(h) 1/11.1                            | -  | -  | A(d) 2/100   |
|       | Back-ground | A(d)2/66.6<br>U(d)1/33.3 | A(d)1/100                                     | A(d)5/83.3<br>P(h) 1/16.6 | A(d)1/50<br>U(j) 1/25<br>U(b)1/25 | U(l) 3/60<br>U(d) 1/20<br>P(k) 1/20  | A(d) 4/66.6<br>A(g) 1/16.6<br>U(j) 1/16.6       | A(d)2/66.6<br>V(a) 1/33.3              | A(d)4/80<br>C*b 1/20   | A(d) 1/100   | A(d) 4/80<br>P(m) 1/20                 | A(d) 2/50<br>P(k) 1/25<br>U(d) 1/25  | A(d) 4/66.6<br>U(j) 1/16.6<br>A(h) 1/16.6  | U(l)2/33.3<br>A(d)1/16.6<br>U(b)1/16.6<br>A(h)1/16.6<br>V(b)1/16.6     | A(d)2/33.3<br>M(b)2/33.3<br>P(k) 1/16.6<br>P(i) 1/16.6 |
| S3    | Fore-ground | -                        | A(d) 1/100                                    | -                         | A(a) 1/100                        | A(d) 1/50<br>P(g) 1/50   | C*b 1/100                                       | A(d)5/71.4<br>U(d)1/14.2<br>P(m)1/14.2 | A(d) 1/50<br>U(e) 1/50   | A(d) 2/100   | A(d)5/83.3<br>P(d)1/16.6               | A(d) 5/83.3<br>U(c) 1/16.6   | A(d)1/100  | -  | U(j) 2/100   |
|       | Back-ground | -                        | A(d)8/72.7<br>U(j) 1/9<br>U(c)1/9<br>P(b) 1/9 | A(d)1/100                 | A(d) 1/83.3<br>U(b)1/16.6         | A(d)1/16.6<br>A(g)1/16.6<br>U(d)1/16.6<br>P(d)1/16.6<br>P(k)1/16.6<br>V(d)1/16.6 | A(g)1/25<br>P(k) 1/25<br>P(c) 1/25<br>P(l) 1/25 | P(j) 2/50<br>A(d) 1/25<br>M(d) 1/25    | A(d)4/26.6<br>U(d)3/20<br>U(j)2/13.3<br>U(h)2/13.3<br>A(g)1/6.6<br>A(i)1/6.6<br>A(f)1/6.6<br>M(j)1/6.6 | U(c) 1/50<br>P(c) 1/50                                 | A(d)2/66.6<br>P(k)1/33.3               | A(d)4/40<br>A(i) 1/10<br>U(c) 1/10<br>U(f) 1/10<br>P(d) 1/10<br>P(f) 1/10<br>M(l) 1/10 | U(d)5/26.3<br>A(d)4/21<br>U(b) 2/10.5<br>U(c)1/9<br>U(e) 1/5.2<br>U(e) 1/5.2<br>P(k) 1/5.2<br>P(d) 1/5.2<br>P(f) 1/5.2<br>P(b) 1/5.2<br>M(g)1/5.2<br>M(a)1/5.2 | A(d)4/36.3<br>U(d)3/27.2<br>U(c)1/9<br>P(j) 1/9<br>P(f) 1/9<br>M(f)1/9 | -  |
| S4    | Fore-ground | A(d) 1/100               | A(d) 1/50<br>U(j) 1/50                        | A(d) 2/100                | A(d) 2/100                        | A(d)5/71.4<br>U(j) 1/14.2<br>A(e) 1/14.2   | A(d) 3/75<br>A(g) 1/25                          | A(d)2/100                              | A(d)2/100  | A(d) 3/50<br>U(c) 1/16.6<br>U(b) 1/16.6<br>P(c) 1/16.6 | A(d)3/100                              | A(d) 1/25<br>A(c) 1/25<br>U(j) 1/25<br>P(h) 1/25                                       | A(d)6/100  | A(d)5/100  | A(d) 3/100   |

Subj. = subject; DF = discoursal function; T1, T2, etc. = the first elicitation session, the second elicitation session, etc.; nf = no foregrounding information; nb = no backgrounding information; "-" = no non-target-like verb form occurred; \*\* The non-target-like verb forms are presented in the following manner: the capitalized letter represents the category in which the particular non-target-like verb form falls; the small letter, mostly in bracket, represents actual occurrence of the particular non-target-like verb form;

A = violation of number concord: (a). first person singular + is, (b). third person singular + don't, (c). third person singular + have (in negative form), (d). third person singular + base verb form, (e). plural noun + was + verb-ing, (f). plural noun + has, (g). plural noun + (present and past) singular copula (in negative form), (h). singular noun + have been, (i). singular noun + (present and past) plural copula, (j). singular noun + were + verb-ing, (k). singular copula + plural noun;

U = unmarking after auxiliaries: (a). am (not) + base, (b). is + base, (c). are + base, (d). was (not) + base, (e). were + base, (f). will be + base, (g). can be + base, (h). don't be + base, (i). had been + base, (j). had (not) + base, (k). has (not) + base, (l). have (not) + base, (m). may be + base;

P = past irregular verb form after auxiliaries and infinitive marker "to": (a). am + irregular verb in past tense, (b). are + irregular verb in past tense, (c). was (not) + irregular verb in past tense, (d). were + irregular verb in past tense, (e). can (t) + irregular verb in past tense, (f). didn't + irregular verb in past tense, (g). had + irregular verb in past tense, (h). have + irregular verb in past tense, (i). must + irregular verb in past tense, (j). will + irregular verb in past tense, (k). to + irregular verb in past tense, (l). was not to + irregular verb in past tense, (m). would + irregular verb in past tense;

V = verb in -ing form after auxiliaries and infinitive marker "to": (a). "to" + irregular verb in past tense, (b). must + verb-ing, (c). wouldn't + verb-ing, (d). will + verb-ing

C\* = combination of violation of number concord and unmarking after auxiliaries: a. first person + has + base verb form, b. third person singular + have + base verb form, c. singular noun + are + base verb form; C<sup>a</sup> = combination of violation of number concord and past irregular verb form after auxiliaries: (a). third person singular + have + irregular verb in past tense

(#/#%)

| Subj. | DF \ ES     | T1                         | T2                     | T3                                      | T4                                  | T5  | T6                                  | T7   | T8  | T9  | T10                                | T11                                       | T12                                       | T13  | T14  |
|-------|-------------|----------------------------|------------------------|---|-------------------------------------|---|-------------------------------------|--|---|---|------------------------------------|---|---|--|--|
| S8    | Fore-ground | nf                         | A(d) 4/80<br>A(c) 1/20 | A(d) 1/100                              | -                                   | nf  | -                                   | A(d) 9/90<br>A(b) 1/10                                   | A(d) 6/100  | A(d) 3/100  | -                                  | A(d) 3/100                                | A(d) 3/100                                | A(d) 7/100   | A(d) 1/100   |
|       | Back-ground | -                          | -                      | A(d) 2/100                              | A(d) 4/80<br>U(b) 1/20              | A(d)16/<br>88.8<br>A(i) 1/5.5<br>U(d) 1/5.5 | A(d)7/100                           | A(d) 10/<br>90.9<br>U(l) 1/9                             | A(d) 3/100  | A(d)5/62.5<br>A(i) 1/12.5<br>U(j) 1/12.5<br>P(e) 1/12.5 | A(d)1/100                          | A(d) 11/<br>91.6<br>U(a) 1/8.3            | A(d)13/86.6<br>U(d) 1/6.6<br>P(e) 1/6.6   | A(d) 7/50<br>U(l) 2/14.2<br>U(d)1/7.1<br>U(a)1/7.1<br>U(c)1/7.1<br>P(h)1/7.1<br>P(j) 1/7.1 | A(d) 8/72.7<br>U(d) 1/9.1<br>U(c) 1/9.1<br>U(b) 1/9.1                |
| S9    | Fore-ground | nf                         | nf                     | A(d)1/100                               | -                                   | A(d)2/100                                   | A(d) 1/50<br>U(a) 1/50              | A(d) 1/100   | A(d) 4/100  | A(d) 4/100  | A(d)4/100                          | A(d) 1/100                                | A(d) 3/75<br>U(k) 1/25                    | A(d) 6/100   | A(d) 5/100   |
|       | Back-ground | -                          | nb                     | A(d) 4/100                              | A(d) 3/60<br>U(j) 1/20<br>P(k) 1/20 | A(d) 6/75<br>U(j) 1/12.5<br>P(g) 1/12.5     | A(d) 4/80<br>U(l) 1/20              | A(d) 2/66.6<br>M(i) 1/33.3                               | A(d) 1/100  | A(d) 4/57.1<br>V(a) 2/28.5<br>P(e) 1/14.2               | A(d)8/88.8<br>V(a)1/11.1           | -   | A(d)6/85.7<br>V(c) 1/14.2                 | A(d) 4/80<br>U(b) 1/20   | A(d) 4/66.6<br>U(d) 1/16.6<br>U(c) 1/16.6                            |
| S10   | Fore-ground | nf                         | nf                     | A(d) 2/100                              | A(d) 1/100                          | A(d) 1/100                                  | -                                   | nf   | A(d) 1/100  | nf  | nf                                 | A(d)1/100                                 | nf  | nf   | -  |
|       | Back-ground | -                          | nb                     | A(d) 2/100                              | A(g) 1/100                          | A(d)4/100                                   | A(b) 1/100                          | U(b)1/100  | A(d) 3/75<br>A(g) 1/25  | A(d) 2/66.6<br>U(d) 1/33.3                              | A(d) 2/66.6<br>A(j) 1/33.3         | A(d) 1/50<br>U(e) 1/50                    | A(d) 1/33.3<br>U(j) 1/33.3<br>P(e) 1/33.3 | A(d) 7/87.5<br>U(b) 1/12.5   | A(d) 5/71.4<br>A(e) 2/28.5   |
| S11   | Fore-ground | -                          | nf                     | nf                                      | nf                                  | A(d) 4/80<br>U(j) 1/20                      | A(d) 1/50<br>P(k) 1/50              | A(d)13/<br>86.6<br>U(d) 1/6.6<br>U(b) 1/6.6              | A(d) 9/64.2<br>P(k) 3/21.4<br>U(c) 1/7.1<br>U(e) 1/7.1        | A(d) 5/83.3<br>P(k) 1/16.6                              | A(d)3/60<br>U(j) 1/20<br>U(l) 1/20 | A(d)3/100                                 | A(d) 7/87.5<br>U(j) 1/12.5                | A(d) 3/60<br>U(b) 1/20<br>P(k) 1/20  | A(d) 2/66.6<br>U(j) 1/33.3   |
|       | Back-ground | A(d) 2/66.6<br>P(e) 1/33.3 | nb                     | A(d) 3/50<br>U(d) 2/33.3<br>U(j) 1/16.6 | A(d) 4/57.1<br>U(c) 1/14.2          | A(d) 3/75<br>P(c) 1/25                      | A(d) 8/80<br>A(f) 1/10<br>U(j) 1/10 | A(d) 3/42.8<br>U(d) 2/28.5<br>A(g) 1/14.2<br>U(b) 1/14.2 | A(d) 6/60<br>A(b) 1/10<br>U(j) 1/10<br>U(b) 1/10<br>P(k) 1/10 | A(d) 2/50<br>U(d) 2/50                                  | A(d) 1/50<br>U(c) 1/50             | A(d) 6/66.6<br>U(d) 2/22.2<br>U(j) 1/11.1 | A(d) 8/80<br>P(k) 2/20                    | A(d) 8/72.7<br>U(j) 2/18.1<br>U(e) 1/9   | A(d) 4/36.3<br>P(e) 2/18.1<br>P(k) 2/18.1<br>U(b) 2/18.1<br>U(k) 1/9 |
| S12   | Fore-ground | nf                         | nf                     | -                                       | nf                                  | nf  | -                                   | nf   | nf  | -   | nf                                 | -   | -   | nf   | A(d) 1/100   |
|       | Back-ground | A(d) 2/100                 | nb                     | -                                       | P(j) 1/100                          | A(d) 3/75<br>A(b) 1/25                      | -                                   | P(f) 1/50<br>V(a) 1/50                                   | A(d) 1/50<br>A(g) 1/50  | -   | -                                  | A(d) 1/100                                | A(d) 2/66.6<br>U(l) 1/33.3                | A(d) 1/100   | A(d) 4/100   |

| #/%)  |    |             |                            |                                     |                            |  |  |   |   |  |   |   |  |   |   |  |
|-------|----|-------------|----------------------------|-------------------------------------|----------------------------|--|--|---|---|--|---|---|--|---|---|--|
| Subj. | DF | ES          | T1                         | T2                                  | T3                         | T4   | T5   | T6  | T7  | T8   | T9  | T10   | T11  | T12   | T13   | T14  |
| S4    |    | Back-ground | A(d) 2/66.6<br>U(d) 1/33.3 | A(d) 1/100                          | A(d) 4/66.6<br>U(d) 2/33.3 | U(d) 2/40<br>A(g) 1/20<br>U(k) 1/20<br>P(f) 1/20 | A(d) 4/36.3<br>A(g) 4/36.3<br>U(l) 1/9.1<br>U(j) 1/9.1<br>V(c) 1/9.1 | A(d) 5/50<br>A(k) 2/20<br>U(e) 1/10<br>U(i) 1/10<br>P(e) 1/10 | A(d) 2/50<br>U(b) 2/50                    | A(g) 3/42.8<br>A(d) 1/14.2<br>U(d) 1/14.2<br>P(j) 1/14.2<br>U(j) 1/6.2<br>U(m) 1/6.2<br>P(e) 1/6.2 | A(d) 7/43.7<br>A(g) 3/18.7<br>U(b) 3/18.7<br>U(j) 1/6.2 | A(d) 2/66.6<br>U(f) 1/33.3                              | A(d) 1/50<br>U(l) 1/50   | A(d) 5/45.4<br>U(j) 2/18.1<br>U(l) 2/18.1<br>U(b) 1/9<br>A(g) 1/9       | A(d) 6/75<br>U(b) 1/12.5<br>P(j) 1/12.5   | A(d) 5/45.4<br>U(l) 2/18.1<br>U(d) 1/9.1<br>U(k) 1/9.1<br>U(b) 1/9.1<br>V(c) 1/9.1     |
| S5    |    | Fore-ground | nf                         | A(d) 6/85.7<br>U(l) 1/14.2          | A(d) 5/100                 | -  | -  | A(d) 1/100  | A(d) 3/60<br>P(k) 1/20<br>M(e) 1/20       | A(d) 1/33.3<br>U(e) 1/33.3<br>P(k) 1/33.3  | A(d) 2/66.6<br>U(d) 1/33.3                              | A(d) 1/100  | A(d) 8/100   | nf  | A(d) 5/100  | -  |
|       |    | Back-ground | U(l) 1/100                 | A(d) 2/66.6<br>P(k) 1/33.3          | A(d) 6/85.7<br>U(l) 1/14.2 | A(d) 1/100                                       | A(d) 6/100   | A(d) 6/100  | A(d) 1/50<br>U(j) 1/50                    | -  | -   | -   | A(d) 3/100   | U(g) 1/100  | A(d) 5/62.5<br>U(d) 2/25<br>U(l) 1/12.5   | A(d) 2/28.5<br>U(j) 1/14.2<br>U(e) 1/14.2<br>P(k) 1/14.2<br>V(a) 1/14.2<br>V(d) 1/14.2 |
| S6    |    | Fore-ground | nf                         | A(d) 1/100                          | nf                         | A(g) 1/50<br>U(e) 1/50                           | A(d) 1/100   | A(d) 2/100  | A(d) 1/50<br>A(g) 1/50                    | A(d) 1/100   | nf  | A(d) 1/50<br>U(d) 1/50                                  | A(d) 4/44.4<br>A(j) 1/11.1<br>A(i) 1/11.1<br>U(f) 1/11.1<br>U(d) 1/11.1<br>P(k) 1/11.1 | U(j) 1/100  | A(d) 1/100  | A(d) 2/100   |
|       |    | Back-ground | A(d) 3/100                 | A(d) 1/100                          | A(d) 4/100                 | A(d) 4/100                                       | A(d) 1/33.3<br>U(l) 1/33.3<br>M(e) 1/33.3                            | A(d) 3/75<br>P(j) 1/25  | A(d) 1/33.3<br>U(j) 1/33.3<br>P(k) 1/33.3 | A(d) 4/66.6<br>U(j) 1/16.6<br>U(d) 1/16.6  | A(d) 5/71.4<br>A(b) 1/14.2<br>M(e) 1/14.2               | A(d) 2/100  | A(d) 1/50<br>A(j) 1/50   | A(d) 1/33.3<br>U(k) 1/33.3<br>M(e) 1/33.3                               | A(d) 3/75<br>A(g) 1/25  | A(d) 2/50<br>U(d) 2/50   |
| S7    |    | Fore-ground | -                          | A(d) 1/100                          | A(d) 3/100                 | -  | A(d) 1/100   | -   | A(d) 4/100                                | A(d) 3/100   | A(d) 7/77.7<br>A(i) 1/11.1<br>U(j) 1/11.1               | A(d) 3/75<br>P(k) 1/25                                  | -  | A(d) 2/50<br>U(j) 1/25<br>U(d) 1/25                                     | A(d) 1/50<br>U(j) 1/50  | A(d) 1/100   |
|       |    | Back-ground | -                          | A(d) 2/50<br>U(l) 1/25<br>U(e) 1/25 | -                          | -  | A(d) 1/100   | A(d) 2/100  | A(d) 3/60<br>U(j) 1/20<br>U(l) 1/20       | A(d) 2/100   | A(d) 1/50<br>M(g) 1/50                                  | A(d) 4/44.4<br>U(d) 3/33.3<br>C*a 1/11.1<br>U(l) 1/11.1 | U(j) 1/50<br>M(i) 1/50   | A(d) 3/42.8<br>U(j) 1/14.2<br>U(d) 1/14.2<br>U(k) 1/14.2<br>M(e) 1/14.2 | A(d) 1/11.1<br>U(j) 1/11.1<br>U(d) 1/11.1<br>U(k) 1/11.1<br>U(l) 1/11.1<br>P(j) 1/11.1<br>P(m) 1/11.1<br>P(c) 1/11.1<br>P(a) 1/11.1 | A(d) 3/100   |

| Subj. | ES          |                        | (#/%)                                     |                            |   |                                     |  |                                     |   |   |  |                             |   |  |  |
|-------|-------------|------------------------|---|----------------------------|---|-------------------------------------|--|-------------------------------------|---|---|--|-----------------------------|---|--|--|
|       | DF          | T1                     | T2  | T3                         | T4  | T5                                  | T6   | T7                                  | T8  | T9  | T10  | T11                         | T12   | T13  | T14  |
| S13   | Fore-ground | nf                     | A(d) 1/100                                | nf                         | -   | A(d) 1/100                          | -  | A(d) 2/100                          | A(d) 1/100  | nf  | nf   | A(d) 1/100                  | -   | A(d) 1/100   | -  |
|       | Back-ground | A(d) 1/100             | A(d) 4/66.6<br>U(d) 1/16.6<br>U(c) 1/16.6 | M(h) 1/100                 | A(d) 1/100                                | A(d) 2/50<br>A(f) 1/25<br>U(e) 1/25 | A(d) 5/100   | U(i) 1/50<br>U(j) 1/50              | A(d) 1/50<br>A(e) 1/50  | A(d) 7/77.7<br>A(j) 1/11.1<br>U(c) 1/11.1 | A(d) 1/11.1  | A(d) 7/77.7<br>A(g) 2/22.2  | A(d) 2/66.6<br>C*c 1/33.3                                     | A(d) 2/100   | A(d) 2/28.5<br>P(f) 2/28.5<br>U(j) 1/14.3<br>U(d) 1/14.3<br>A(f) 1/14.3            |
| S14   | Fore-ground | nf                     | A(d) 3/75<br>P(k) 1/25                    | A(d) 1/100                 | A(d) 1/50<br>U(j) 1/50                    | -                                   | -  | A(d) 1/100                          | nf  | A(d) 2/100                                | nf   | -                           | -   | -  | -  |
|       | Back-ground | U(j) 1/50<br>C*b 1/50  | U(j) 2/100                                | U(b) 1/100                 | A(d) 1/50<br>U(j) 1/50                    | A(d) 3/60<br>U(b) 2/40              | A(d) 4/100   | A(d) 2/50<br>A(f) 1/25<br>P(j) 1/25 | A(d) 7/58.3<br>P(j) 2/16.6<br>A(f) 1/8.3<br>U(c) 1/8.3<br>U(l) 1/8.3                | A(d) 2/50<br>U(d) 1/25<br>P(j) 1/25       | A(d) 2/40<br>P(k) 1/20<br>V(a) 1/20<br>C*b 1/20      | A(d) 1/50<br>U(l) 1/50      | A(d) 4/66.6<br>U(b) 1/16.6<br>A(f) 1/16.6                     | A(d) 10/58.8<br>U(k) 2/11.7<br>U(l) 2/11.7<br>U(j) 1/5.8<br>U(b) 1/5.8<br>U(f) 1/5.8 | A(d) 2/40<br>U(j) 1/20<br>U(e) 1/20<br>P(b) 1/20                                   |
| S15   | Fore-ground | A(d) 1/100             | -   | -                          | A(d) 3/75<br>V(a) 1/25                    | A(d) 5/100                          | A(d) 4/80<br>U(d) 1/20                                   | nf                                  | A(d) 3/75<br>U(e) 1/25  | A(d) 2/40<br>U(e) 2/40<br>A(j) 1/20       | A(d) 5/100   | A(d) 2/66.6<br>U(e) 1/33.3  | A(d) 5/83.3<br>P(d) 1/16.6                                    | A(d) 1/33.3<br>P(g) 1/33.3<br>P(k) 1/33.3  | A(d) 5/71.4<br>P(b) 1/28.5   |
|       | Back-ground | A(d) 4/100             | A(d) 2/100                                | U(c) 2/66.6<br>A(d) 1/33.3 | A(d) 3/50<br>P(k) 2/33.3<br>V(d) 1/16.6   | A(d) 6/85.8<br>A(g) 1/14.2          | A(d) 3/33.3<br>U(c) 3/33.3<br>A(g) 2/22.2<br>P(b) 1/11.1 | A(d) 9/90<br>U(b) 1/10              | A(d) 11/61.1<br>P(i) 3/16.6<br>U(a) 1/5.5<br>U(c) 1/5.5<br>U(b) 1/5.5<br>P(e) 1/5.5 | A(d) 14/87.5<br>P(e) 1/6.2<br>P(k) 1/6.2  | A(d) 6/50<br>U(d) 4/33.3<br>V(a) 1/8.3<br>U(b) 1/8.3 | A(d) 10/83.3<br>U(c) 2/16.6 | A(d) 1/20<br>A(j) 1/20<br>U(d) 1/20<br>U(b) 1/20<br>P(c) 1/20 | A(d) 7/77.7<br>A(g) 1/11.1<br>U(e) 1/11.1  | A(d) 4/57.1<br>U(c) 1/14.2<br>P(e) 1/14.2<br>P(f) 1/14.2                           |
| S16   | Fore-ground | A(d) 4/100             | P(k) 1/100                                | A(d) 1/100                 | A(d) 1/100                                | A(d) 4/100                          | A(d) 3/100   | A(d) 3/100                          | A(d) 2/100  | A(d) 2/100                                | A(d) 4/80<br>A(i) 1/20                               | nf                          | nf  | nf   | U(j) 1/25<br>P(h) 1/25<br>P(j) 1/25<br>P(k) 1/25                                   |
|       | Back-ground | A(d) 1/50<br>A(b) 1/50 | A(d) 4/80<br>U(e) 1/20                    | A(d) 1/100                 | A(d) 5/71.4<br>U(c) 1/14.2<br>P(f) 1/14.2 | A(d) 3/75<br>A(j) 1/25              | A(d) 6/66.6<br>U(d) 1/11.1<br>U(b) 1/11.1<br>U(e) 1/11.1 | A(d) 3/75<br>U(d) 1/25              | A(g) 2/40<br>A(d) 1/20<br>U(d) 1/20<br>P(e) 1/20                                    | A(d) 3/60<br>U(a) 1/20<br>U(e) 1/20       | A(d) 4/80<br>U(d) 1/20                               | nb                          | A(d) 21/91.3<br>U(b) 1/4.3<br>C*b 1/4.3                       | -  | A(d) 2/25<br>U(d) 2/25<br>U(b) 1/12.5<br>U(j) 1/12.5<br>U(f) 1/12.5<br>P(f) 1/12.5 |

| Subj. |             |    | (#/%)                      |                        |  |  |  |   |   |   |   |   |  |   |   |  |
|-------|-------------|----|----------------------------|------------------------|--|--|--|---|---|---|---|---|--|---|---|--|
|       | DF          | ES | T1                         | T2                     | T3   | T4   | T5   | T6  | T7  | T8  | T9                                      | T10   | T11  | T12   | T13   | T14  |
| S17   | Fore-ground |    | A(d) 2/66.6<br>P(f) 1/33.3 | A(d) 1/100             | -  | A(d) 1/50<br>P(k) 1/50                                   | A(d) 1/100                                       | -   | A(d) 2/100                                | -   | A(d) 3/100                              | A(d) 2/66.6<br>P(f) 1/33.3  | A(d) 1/33.3<br>U(j) 1/33.3<br>P(f) 1/33.3                | A(d) 7/100  | A(d) 5/71.4<br>U(a) 1/14.2<br>P(k) 1/14.2   | A(d) 2/100                                       |
|       | Back-ground |    | -                          | A(d) 2/100             | A(d) 4/100   | A(d) 2/50<br>U(d) 1/25<br>V(c) 1/25                      | V(c) 3/100                                       | A(d) 2/66.6<br>P(j) 1/33.3  | -   | A(d) 2/66.6<br>P(f) 1/33.3  | A(d) 2/100                              | A(d) 4/66.6   | A(d) 3/50<br>U(j) 1/16.6<br>P(f) 1/16.6<br>P(b) 1/16.6   | A(d) 1/50<br>P(j) 1/50  | A(d) 2/100  | A(g) 1/25<br>U(e) 1/25<br>P(j) 1/25<br>P(c) 1/25 |
| S18   | Fore-ground |    | -                          | nf                     | A(d) 1/50<br>U(b) 1/50                                   | nf   | nf   | -   | A(d) 5/100                                | nf  | nf                                      | nf  | -  | A(d) 1/100  | A(d) 5/41.6<br>U(b) 2/16.6<br>P(k) 2/16.6<br>P(f) 1/8.3<br>U(j) 1/8.3<br>U(l) 1/8.3 | V(a) 1/100                                       |
|       | Back-ground |    | A(d) 1/100                 | A(d) 1/50<br>U(d) 1/50 | A(d) 2/33.3<br>U(b) 2/33.3<br>U(d) 1/16.6<br>U(l) 1/16.6 | A(d) 3/37.5<br>U(b) 3/37.5<br>U(j) 1/12.5<br>U(d) 1/12.5 | A(d) 2/100                                       | A(d) 1/20<br>A(g) 1/20<br>U(j) 1/20<br>P(g) 1/20<br>P(k) 1/20           | -   | A(d) 5/55.5<br>A(g) 1/11.1<br>U(b) 1/11.1<br>U(j) 1/11.1<br>U(i) 1/11.1 | A(g) 2/66.6<br>U(j) 1/33.3              | A(d) 4/80<br>U(b) 1/20  | A(d) 7/70<br>U(j) 1/10<br>U(k) 1/10<br>U(l) 1/10         | A(d) 5/62.5<br>U(j) 2/25<br>V(a) 1/12.5                       | A(d) 1/33.3<br>A(g) 1/33.3<br>U(b) 1/33.3   | A(d) 6/66.6<br>U(b) 2/22.2<br>U(c) 1/11.1        |
| S19   | Fore-ground |    | -                          | nf                     | nf   | nf   | A(d) 3/100                                       | U(b) 2/66.6<br>A(d) 1/33.3  | -   | nf  | A(d) 2/100                              | A(d) 6/100  | -  | nf  | A(d) 2/100  | A(d) 1/100                                       |
|       | Back-ground |    | A(d) 2/50<br>U(b) 2/50     | A(d) 1/50<br>M(c) 1/50 | A(d) 4/80<br>U(a) 1/20                                   | A(d) 1/100   | A(d) 1/25<br>U(d) 1/25<br>U(l) 1/25<br>P(b) 1/25 | A(d) 5/55.5<br>U(j) 1/11.1<br>U(l) 1/11.1<br>U(e) 1/11.1<br>P(k) 1/11.1 | A(d) 2/66.6<br>U(d) 1/33.3                | A(d) 2/40<br>U(a) 1/20<br>U(j) 1/20<br>V(a) 1/20                        | A(d) 5/62.5<br>U(d) 2/25<br>U(j) 1/12.5 | A(d) 2/25<br>U(d) 2/25<br>A(g) 2/25<br>U(c) 1/12.5<br>U(b) 1/12.5 | A(d) 5/62.5<br>U(b) 1/12.5<br>U(c) 1/12.5<br>P(j) 1/12.5 | U(j) 3/42.8<br>A(d) 2/28.5<br>U(f) 1/14.2<br>P(k) 1/14.2      | A(d) 6/75<br>U(j) 2/25  | A(d) 5/71.4<br>U(l) 1/14.2<br>C*b 1/14.2         |
| S20   | Fore-ground |    | nf                         | nf                     | A(b) 2/66.6<br>A(d) 1/33.3                               | -  | -  | A(d) 5/71.4<br>A(b) 1/14.2<br>P(j) 1/14.2                               | A(d) 1/100                                | A(d) 1/50<br>V(a) 1/50  | -                                       | A(d) 9/90<br>U(j) 1/10  | A(d) 2/66.6<br>A(i) 1/33.3                               | A(d) 1/100  | A(d) 1/100  | -  |
|       | Back-ground |    | A(d) 2/66.6<br>A(b) 1/33.3 | -                      | A(d) 3/75<br>A(i) 1/25                                   | A(d) 1/33.3<br>A(i) 1/33.3<br>U(j) 1/33.3                | -  | A(d) 4/80<br>P(m) 1/20  | A(d) 4/66.6<br>A(g) 1/16.6<br>P(k) 1/16.6 | A(d) 4/50<br>U(b) 1/12.5<br>P(c) 1/12.5<br>P(e) 1/12.5<br>P(j) 1/12.5   | A(d) 5/100                              | A(d) 5/100  | A(d) 13/<br>92.8<br>U(l) 1/7.1                           | A(d) 6/60<br>A(g) 1/10<br>U(e) 1/10<br>U(j) 1/10<br>P(g) 1/10 | A(d) 5/50<br>A(g) 1/10<br>U(d) 1/10<br>U(m) 1/10<br>P(h) 1/10<br>P(c) 1/10          | A(d) 9/90<br>U(a) 1/10                           |

Table 28. Percentages of Past and Non-past Time Reference in relation to those of Actual Time Marking in Expression of Foreground and Background Information

| S | DF | TR | T1   |      | T2   |       | T3   |      | T4   |      | T5   |      | T6   |      | T7   |      | T8   |      | T9   |      | T10  |      | T11  |      | T12  |      | T13  |      | T14  |      |     |
|---|----|----|------|------|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
|   |    |    | SM   | VM   | SM   | VM    | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   |     |
| 1 | F  | PS | nf   |      | 100  | .88.3 | nf   |      | 100  |      | 100  | 100  | 100  | 75   | 100  | 100  | 100  | 33.3 | 100  | 77.7 | 100  | 100  | 100  | 77.7 | 100  | 50   | nf   |      | 100  | 50   |     |
|   |    | NP |      |      | 16.6 |       |      |      | 100  |      |      |      | 25   |      |      |      | 66.6 |      | 22.2 |      |      |      | 22.2 |      | 50   |      |      |      | 50   |      |     |
|   | B  | PS | 71.4 | 44.4 | 71.4 | 71.4  | 16.6 | 25   | 83.3 | 23.5 | 64.7 | 50   | 59   | 30.4 | 88   | 51.4 | 60.8 | 45.5 | 80   | 44   | 46.1 | 40.5 | 84   | 38.5 | 57.8 | 23.5 | 54.5 | 20   | 87.5 | 21.4 |     |
|   |    | NP | 28.5 | 55.5 | 28.5 | 28.5  | 83.3 | 75   | 16.6 | 76.4 | 35.2 | 50   | 40.9 | 69.5 | 12   | 48.5 | 39.1 | 54.4 | 20   | 56   | 53.8 | 59.4 | 16   | 61.4 | 42.1 | 76.4 | 45.4 | 80   | 42.1 | 78.5 |     |
| 2 | F  | PS | 100  | 75   | 100  | 62.4  | 100  | 100  | 100  | 40   | 100  | 61.5 | 100  | 50   | 100  | 66.6 | 100  | 40   | 100  | 69.2 | 100  | 61.1 | 100  | 75   | 100  | 100  | 100  | 50   | 100  | 87.5 |     |
|   |    | NP | 25   |      | 37.5 |       |      |      | 60   |      | 31.4 |      | 50   |      | 33.3 |      | 60   |      | 30.7 |      | 38.8 |      | 25   |      |      |      | 50   |      | 12.5 |      |     |
|   | B  | PS | 71.4 | 52.9 | 66.6 | 30.7  | 46.1 | 9    | 71.4 | 40.9 | 40   | 35.7 | 41.6 | 27.5 | 63.6 | 50   | 75   | 33.3 | 93.7 | 52.6 | 75   | 50   | 95.4 | 37.5 | 68.7 | 45.9 | 70.3 | 46.8 | 32   | 39.3 |     |
|   |    | NP | 28.5 | 47   | 33.3 | 69.2  | 53.8 | 90.9 | 28.5 | 59   | 60   | 64.2 | 38.5 | 72.4 | 36.3 | 50   | 25   | 66.6 | 6.3  | 47.3 | 25   | 50   | 4.5  | 62.5 | 54   |      | 29.6 | 53.1 | 68   | 60.6 |     |
| 3 | F  | PS | 100  | 50   | 100  | 50    | 100  | 25   | 100  | 66.6 | 87.5 | 37.5 | 90   | 76.9 | 100  | 100  | 100  | 88.8 | 100  | 72.7 | 97   | 90.9 | 100  | 66.6 | 83.3 | 66.6 | 100  | 58.8 | 88.8 | 54.5 |     |
|   |    | NP | 50   |      | 50   |       | 75   |      | 33.3 |      | 12.5 | 62.5 | 10   | 23   |      |      | 11.1 |      | 27.2 |      | 9    |      | 33.3 |      | 16.6 | 33.3 | 41.1 |      | 11.1 | 45.4 |     |
|   | B  | PS | 57.1 | 53.8 | 63.6 | 26.3  | 40   | 33.3 | 63.6 | 50   | 69.6 | 58.3 | 83.3 | 81.8 | 33.3 | 44.4 | 62.5 | 54.5 | 50   | 44.8 | 55.2 | 46.1 | 64.4 | 48.3 | 57.7 | 60.4 | 62.9 | 45.4 | 26   | 19.4 |     |
|   |    | NP | 42.8 | 46.1 | 36.3 | 73.6  | 60   | 66.6 | 36.3 | 50   | 30.3 | 41.6 | 16.6 | 18.1 | 66.6 | 55.5 | 37.5 | 45.4 | 50   | 55.1 | 44.7 | 53.8 | 35.5 | 51.6 | 42.2 | 39.5 | 37   | 54.5 | 73.9 | 80.5 |     |
| 4 | F  | PS | 1.00 | .777 | 1.00 | .444  | 1.00 | .666 | 1.00 | .363 | .976 | .767 | 100  | 74   | 100  | 70.8 | 100  | 83.3 | 92.3 | 85   | 100  | 64.4 | 100  | 84.2 | 100  | 56.4 | 100  | 63.6 | 100  | 66.6 |     |
|   |    | NP | .222 |      | .555 |       | .333 |      | .636 |      | .023 | .232 | 25.9 |      | 29.1 |      | 16.6 |      | 7.6  |      | 15   | 35.5 |      | 15.7 |      | 43.5 |      | 36.3 |      | 33.3 |     |
|   | B  | PS | .70  | .358 | .785 | .214  | .411 | .666 | .666 | .571 | 42.8 | 39.4 | 30.9 | 43.8 | 86.3 | 57.9 | 85.7 | 84.4 | 55.8 | 42.8 | 61.7 | 49   | 76   | 52.6 | 72.7 | 43.4 | 76.6 | 47.2 | 66.6 | 47.8 |     |
|   |    | NP | .30  | .641 | .214 | .785  | .588 | .333 | .333 | .428 | 57.1 | 60.5 | 69   | 56.1 | 13.6 | 41.9 | 14.2 | 15.5 | 44.1 | 57.1 | 38.2 | 50.9 | 24   | 47.3 | 27.2 | 56.5 | 23.3 | 52.7 | 33.3 | 52.1 |     |
| 5 | F  | PS | nf   |      | 1.00 | .714  | .888 | .625 | 1.00 | .75  | 100  | 66.6 | 100  | 50   | 100  | 72.7 | 100  | 75   | 100  | 100  | 100  | 33.3 | 100  | 75   | nf   |      | 100  | 66.6 | 93.7 | 65   |     |
|   |    | NP |      |      | .285 |       | .111 |      | .375 |      | .25  |      | 33.3 |      | 50   |      | 27.2 |      | 25   |      |      |      | 66.6 |      | 25   |      |      |      | 33.3 |      | 6.2 |
|   | B  | PS | .50  | .50  | .888 | .60   | .541 | .344 | .666 | .70  | 76.1 | 57.1 | 76.4 | 68.5 | 100  | 71.4 | 80   | 69   | 83.3 | 75   | 100  | 81.8 | 62.5 | 73.3 | 76   | 70   | 78   | 39.1 | 63.1 | 60   |     |
|   |    | NP | .50  | .50  | .111 | .40   | .458 | .655 | .333 | .30  | 23.8 | 42.8 | 23.5 | 31.4 | 28.5 |      | 20   | 30.9 | 16.6 | 25   | 18.1 |      | 37.5 | 26.6 | 24   | 30   | 22   | 60.8 | 36.8 | 40   |     |

Legend: S = subject; DF = discourse function; F = foreground; B = background; TR = time reference; SM = semantic meaning of time reference; VM = actual past tense marking; PS = past; PR = present (including future and atemporal reference); T1, T2, etc. = the first elicitation session, the second elicitation session, etc.; nf = no foreground information; no = no background information

| S  | DF | TR | T1   |      | T2   |      | T3   |      | T4   |      | T5   |      | T6   |      | T7   |      | T8   |      | T9   |      | T10  |      | T11  |      | T12  |      | T13  |      | T14  |      |
|----|----|----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|    |    |    | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   |
| 6  | F  | PS | nf   |      | 88.8 | 44.4 | nf   |      | 100  | 100  | 100  | 76.9 | 100  | 88.4 | 100  | 16.6 | 100  | 100  | nf   |      | 100  | 47   | 100  | 89.5 | 100  | 75   | 100  | 66.6 | 100  | 77.7 |
|    |    | PR |      |      | 11.1 | 55.5 |      |      |      |      |      | 23   |      | 11.5 |      | 83.3 |      |      |      |      |      | 52.9 |      | 10.5 |      | 25   |      | 33.3 |      | 22.2 |
|    | B  | PS | 90   | 50   | 41.6 | 26.6 | 55.5 | 35.7 | 44.4 | 40   | 66.6 | 65   | 42.8 | 44   | 82.3 | 52.2 | 78.1 | 51.6 | 91.3 | 62.9 | 46.1 | 18.1 | 84.6 | 50   | 85.7 | 23   | 78.9 | 82.6 | 83.3 | 50   |
|    |    | PR | 10   | 50   | 58.3 | 73.3 | 44.4 | 64.2 | 55.5 | 60   | 33.3 | 35   | 57.1 | 56   | 17.6 | 47.7 | 21.8 | 48.3 | 8.6  | 37   | 53.8 | 81.8 | 15.3 | 50   | 14.2 | 76.9 | 21   | 173  | 16.6 | 50   |
| 7  | F  | PS | 100  | 100  | 100  | 92.3 | 100  | 89.2 | 75   | 100  | 100  | 100  | 100  | 100  | 81.8 | 100  | 80   | 100  | 93.3 | 100  | 71.4 | 100  | 66.6 | 100  | 60.8 | 100  | 81.3 | 100  | 72.7 |      |
|    | PR |    |      |      | 7.6  |      | 10.5 | 25   |      |      |      |      |      | 18.1 |      | 20   |      | 6.6  |      | 28.5 |      | 33.3 |      | 39.1 |      | 18.1 |      | 27.2 |      |      |
|    | B  | PS | 55.5 | 25   | 46.4 | 40.5 | 41.6 | 41.9 | 30.7 | 21.4 | 85.1 | 62.5 | 40   | 34.6 | 73   | 68.7 | 80   | 70.5 | 62.8 | 56.5 | 85   | 76.5 | 81.8 | 79.5 | 69.4 | 58   | 87   | 66.6 | 75.8 | 64.7 |
|    |    | PR | 44.4 | 75   | 53.5 | 59.4 | 58.3 | 58   | 69.2 | 78.5 | 14.8 | 37.5 | 60   | 65.3 | 26.9 | 31.2 | 20   | 29.4 | 37.1 | 43.4 | 15   | 23.4 | 18.1 | 20.4 | 30.5 | 41.9 | 12.9 | 33.3 | 24.1 | 35.2 |
| 8  | F  | PS | nf   |      | 100  | 66.6 | 100  | 33.3 | 100  | 42.8 | nf   |      | 100  | 37.5 | 100  | 60   | 100  | 46.6 | 100  | 62.5 | 100  | 50   | 100  | 50   | 100  | 60   | 100  | 60   | 100  | 47.5 |
|    | PR |    |      |      | 33.3 |      | 66.6 |      | 57.1 |      |      |      | 62.5 |      | 40   |      | 53.3 |      | 37.5 |      | 50   |      | 50   |      | 40   |      | 40   |      | 52.4 |      |
|    | B  | PS | 100  | 42.8 | 68.1 | 40.9 | 100  | 54.5 | 83.3 | 40.9 | 44.4 | 31.4 | 94.7 | 55.5 | 88.8 | 50   | 76.9 | 32.4 | 87.8 | 62.5 | 59.2 | 42.8 | 84   | 66.6 | 92   | 35.7 | 85.7 | 43.1 | 67.4 | 23   |
|    |    | PR | 57.1 |      | 31.8 | 59   | 45.4 |      | 16.6 | 59   | 55.5 | 68.5 | 5.2  | 44.4 | 11.1 | 50   | 23   | 67.5 | 12.1 | 37.5 | 40.7 | 57.1 | 16   | 33.3 | 8    | 64.2 | 14.2 | 56.8 | 32.5 | 76.9 |
| 9  | F  | PS | nf   |      | nf   |      | 100  | 53.3 | 100  | 44.4 | 100  | 88.2 | 100  | 78.5 | 93.3 | 55.5 | 100  | 90   | 100  | 78.5 | 100  | 87.4 | 90.9 | 64.2 | 100  | 54.5 | 100  | 63.6 | 100  | 59   |
|    | PR |    |      |      |      | 46.6 |      |      | 55.5 |      | 11.7 |      | 21.4 | 6.6  | 44.4 |      | 10   |      | 21.4 |      | 12.5 | 9    | 35.7 |      | 45.4 |      | 36.3 |      | 40.9 |      |
|    | B  | PS | 36.3 | 25   | nb   |      | 84.6 | 44.4 | 70.8 | 50   | 54.5 | 41.3 | 62.8 | 31.5 | 53.8 | 42.8 | 45.4 | 21.8 | 31.2 | 30.5 | 63.8 | 61.4 | 72.2 | 57.1 | 77.4 | 43.5 | 33.3 | 18   | 52.9 | 50   |
|    |    | PR | 63.6 | 75   |      |      | 15.3 | 55.5 | 29.1 | 50   | 45.4 | 58.6 | 37.1 | 68.4 | 46.1 | 57.1 | 54.5 | 78.1 | 68.7 | 69.4 | 36.1 | 38.5 | 27.7 | 42.8 | 22.5 | 56.4 | 66.6 | 82   | 47   | 50   |
| 10 | F  | PS | nf   |      | nf   |      | 100  | 80   | 100  | 50   | 100  | 60   | 100  | 88.2 | nf   |      | 100  | 100  | nf   |      | nf   |      | 100  | 40   | nf   |      | nf   |      | 100  | 100  |
|    | PR |    |      |      |      | 20   |      |      | 50   |      | 40   |      | 11.7 |      |      |      |      |      |      |      |      | 60   |      |      |      |      |      |      |      |      |
|    | B  | PS | 71.4 | 62.5 | nb   |      | 78.5 | 68.7 | 50   | 80   | 75   | 62.9 | 50   | 47   | 73.6 | 81.8 | 85.1 | 84   | 69.2 | 57.1 | 83.3 | 72.7 | 100  | 50   | 82.3 | 46.6 | 80.6 | 53.5 | 92.5 | 72.4 |
|    |    | PR | 28.5 | 37.5 |      |      | 21.4 | 31.2 | 50   | 20   | 25   | 37   | 50   | 52.9 | 26.3 | 18.1 | 14.8 | 16   | 30.7 | 42.8 | 16.6 | 27.2 |      | 50   | 17.6 | 53.3 | 19.3 | 46.4 | 7.4  | 27.5 |

| S  | DF | TR   | T1   |      | T2   |      | T3   |      | T4   |      | T5   |      | T6   |      | T7   |      | T8   |      | T9   |      | T10  |      | T11  |      | T12  |      | T13  |      | T14  |    |
|----|----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----|
|    |    |      | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM |
| 11 | F  | PS   | 100  | 40   | nf   | nf   | nf   | 94.4 | 35   | 100  | 55.5 | 95.6 | 43.7 | 100  | 47.5 | 100  | 45.5 | 100  | 28.5 | 100  | 37.5 | 100  | 33.3 | 100  | 42.8 | 100  | 50   |      |      |    |
|    |    | PR   | 60   | 5.5  |      |      |      | 65   | 44.4 | 4.3  | 56.2 | 52.4 | 54.4 | 71.4 | 62.5 | 66.6 | 57.1 | 50   |      |      |      |      |      |      |      |      |      |      |      |    |
| B  | PS | 48.1 | 16.6 | nb   | 32.6 | 32.3 | 34.4 | 37.5 | 55.8 | 10   | 68.1 | 25   | 71.7 | 24.4 | 75.3 | 29.3 | 80.6 | 43.2 | 75.7 | 20   | 50   | 20.5 | 62.9 | 33.3 | 76.9 | 37.5 | 68   | 27.2 |      |    |
|    | PR | 51.8 | 83.3 |      | 67.3 | 67.6 | 65.5 | 62.5 | 44.1 | 90   | 31.8 | 75   | 28.2 | 75.5 | 24.6 | 70.6 | 19.3 | 56.7 | 24.2 | 80   | 50   | 79.4 | 37   | 66.6 | 23   | 62.5 | 32   | 71.7 |      |    |
| 12 | F  | PS   | nf   | nf   | 100  | 100  | nf   | nf   | 100  | 80   | nf   | nf   | 100  | 66.6 | nf   | nf   | 100  | 60   | 100  | 100  | nf   | nf   | 100  | 60   | 100  | 100  | nf   | 100  | 100  |    |
|    |    | PR   |      |      | 20   | 33.3 |      |      | 40   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |    |
| B  | PS | 44.4 | 36.3 | nb   | 50   | 41.1 | 57.1 | 52.9 | 53.3 | 22.2 | 75   | 50   | 87.5 | 75   | 95.4 | 81.8 | 57.8 | 56.5 | 76.4 | 63.1 | 63.1 | 56.5 | 70   | 60.4 | 81.2 | 72.7 | 85.7 | 70.9 |      |    |
|    | PR | 55.5 | 63.6 |      | 50   | 58.8 | 42.8 | 47   | 46.6 | 77.7 | 25   | 50   | 12.5 | 25   | 4.5  | 18.1 | 42.1 | 43.4 | 23.5 | 36.8 | 36.8 | 43.4 | 30   | 39.1 | 18.7 | 27.2 | 14.2 | 29   |      |    |
| 13 | F  | PS   | nf   | 100  | 100  | nf   | 100  | 100  | 100  | 60   | 100  | 100  | 100  | 100  | 100  | 100  | 100  | nf   | nf   | 100  | 75   | 100  | 50   | 100  | 100  | 100  | 100  | 100  | 50   |    |
|    |    | PR   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 40   | 25   | 50   | 50   | 50   |      |      |      |      |      |    |
| B  | PS | 60   | 50   | 65.6 | 18.7 | 30.4 | 44.4 | 64.2 | 64.7 | 61.7 | 51.4 | 21.4 | 10   | 54.5 | 40.7 | 76.4 | 44.4 | 41.1 | 11.1 | 100  | 33.3 | 62.8 | 42.1 | 47.3 | 46   | 77.4 | 60.6 | 83.6 | 32.6 |    |
|    | PR | 40   | 50   | 34.3 | 81.2 | 69.5 | 55.5 | 35.7 | 35.1 | 38.2 | 48.5 | 78.5 | 90   | 45.4 | 59.2 | 23.5 | 55.5 | 58.8 | 88.8 | 66.6 | 37.1 | 57.8 | 52.6 | 54   | 22.5 | 39.3 | 16.3 | 67.3 |      |    |
| 14 | F  | PS   | nf   | 100  | 57.1 | 100  | 76.4 | 100  | 83.3 | 100  | 100  | 100  | 41.6 | 100  | 50   | nf   | 100  | 50   | nf   | 100  | 50   | 85.7 | 44.4 | 100  | 55.5 | 100  | 100  |      |      |    |
|    |    | PR   |      | 42.8 | 23.5 | 16.6 | 58.3 | 50   | 50   | 50   | 50   | 50   | 14.2 | 55.5 | 44.4 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |    |
| B  | PS | 60   | 27.2 | 100  | 58.3 | 83.3 | 60   | 70   | 50   | 40   | 23   | 52.6 | 31.9 | 90.9 | 70.3 | 68.5 | 27   | 69.2 | 38.4 | 66.6 | 28.2 | 70.5 | 36.3 | 60   | 36.3 | 74.4 | 48.7 | 86.5 | 42.5 |    |
|    | PR | 40   | 72.7 | 41.6 | 16.6 | 40   | 30   | 50   | 60   | 76.9 | 47.3 | 68   | 9    | 29.6 | 31.4 | 72.9 | 30.7 | 61.5 | 33.3 | 71.7 | 29.4 | 63.6 | 40   | 63.6 | 25.5 | 51.2 | 13.4 | 57.4 |      |    |
| 15 | F  | PS   | 100  | 87.5 | 100  | 100  | 100  | 75   | 100  | 64.7 | 100  | 63.6 | 96.1 | 72   | nf   | 100  | 78.5 | 100  | 55   | 91.3 | 48.1 | 100  | 66.6 | 100  | 50   | 93.3 | 57.8 | 100  | 68.4 |    |
|    |    | PR   | 12.5 | 25   | 35.2 | 36.3 | 3.8  | 28   | 21.4 | 45   | 8.6  | 51.8 | 33.3 | 50   |      | 6.6  | 42.1 | 31.5 |      |      |      |      |      |      |      |      |      |      |      |    |
| B  | PS | 91.6 | 63.6 | 92.3 | 40   | 56   | 33.3 | 70.5 | 45.1 | 60   | 27.1 | 58.8 | 28   | 24.4 | 23.4 | 64.4 | 38   | 30.2 | 36.8 | 71.4 | 28.2 | 54.3 | 17.2 | 65.3 | 36.8 | 73.3 | 18.1 | 72.4 | 34.2 |    |
|    | PR | 8.3  | 36.3 | 7.6  | 60   | 44   | 66.6 | 29.4 | 54.8 | 40   | 72.8 | 41.1 | 72   | 75.5 | 76.5 | 35.5 | 61.9 | 69.7 | 63.1 | 28.5 | 71.7 | 45.6 | 82.7 | 34.6 | 63.1 | 26.6 | 81.8 | 27.5 | 65.7 |    |



| S  | DF | TR | T1   |      | T2   |      | T3   |      | T4   |      | T5   |      | T6   |      | T7   |      | T8   |      | T9   |      | T10  |      | T11  |      | T12  |      | T13  |      | T14  |      |
|----|----|----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|    |    |    | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   | SM   | VM   |
| 16 | F  | PS | 100  | 60   | 100  | 55.5 | 100  | 100  | 100  | 80   | 100  | 66.6 | 100  | 75   | 100  | 87.5 | 100  | 84.6 | 100  | 56.2 | 100  | 57.1 | nf   |      | nf   |      | nf   |      | 100  | 58.8 |
|    |    | PR |      | 40   |      | 44.4 |      |      |      | 20   |      | 33.3 |      | 25   |      | 12.5 |      | 15.3 |      | 43.7 |      | 42.8 |      |      |      |      |      |      |      | 41.1 |
|    | B  | PS | 46.1 | 41.6 | 93.7 | 52.5 | 75   | 36   | 62.5 | 68   | 74.2 | 55.5 | 56   | 37   | 34.6 | 35.7 | 91.6 | 60.6 | 52.1 | 46.4 | 80   | 68.4 | nb   |      | 82.3 | 61.9 | 84.3 | 30   | 86.1 | 30.2 |
|    |    | PR | 53.8 | 58.3 | 6.2  | 47.5 | 25   | 64   | 37.5 | 32   | 25.7 | 44.4 | 44   | 62.9 | 65.3 | 64.2 | 8.3  | 39.3 | 47.8 | 53.5 | 20   | 31.5 |      |      | 17.6 | 38   | 15.6 | 70   | 13.8 | 69.7 |
| 17 | F  | PS | 100  | 60   | 88.8 | 80   | 100  | 28.5 | 100  | 66.6 | 100  | 91.3 | 100  | 88.2 | 100  | 86.3 | 100  | 81.8 | 100  | 70   | 100  | 46.6 | 100  | 53.8 | 100  | 57.1 | 100  | 64   | 93.7 | 68.1 |
|    |    | PR |      | 40   | 11.1 | 20   |      | 71.4 |      | 33.3 |      | 8.6  |      | 11.7 |      | 13.6 |      | 18.1 |      | 30   |      | 53.3 |      | 46.1 |      | 42.8 |      | 36   | 6.2  | 31.8 |
|    | B  | PS | 100  | 50   | 71.4 | 56   | 65   | 45   | 95.6 | 66.6 | 88.8 | 80.5 | 63.6 | 60.8 | 91.3 | 72.2 | 86.9 | 56   | 95.8 | 76.4 | 93.3 | 58.3 | 95   | 67.8 | 80.7 | 51.7 | 93.3 | 47   | 83.8 | 45.9 |
|    |    | PR |      | 50   | 28.5 | 44   | 35   | 55   | 4.3  | 33.3 | 11.1 | 19.4 | 36.3 | 39.1 | 8.6  | 27.7 | 13   | 44   | 4.1  | 23.5 | 6.6  | 41.6 | 5    | 32.1 | 19.2 | 48.2 | 6    | 52.9 | 16.1 | 54   |
| 18 | F  | PS | 100  | 50   |      | nf   | 100  | 11.1 |      | nf   |      | nf   | 100  | 33.3 | 100  | 63.6 |      | nf   |      | nf   |      | nf   | 100  | 14.2 | 100  | 33.3 | 100  | 36.8 | 100  |      |
|    |    | PR |      | 50   |      |      |      | 88.8 |      | nf   |      | nf   |      | 66.6 |      | 36.3 |      | nf   |      | nf   |      | nf   |      | 85.7 |      | 66.6 |      | 63.1 |      | 100  |
|    | B  | PS | 50   | 25   | 84.6 | 50   | 60.8 | 8.6  | 66.6 | 28.5 | 47.6 | 18.1 | 72   | 17.2 | 55   | 17.2 | 60   | 20.8 | 22.5 | 11.1 | 33.3 | 30   | 64.8 | 22.7 | 56.6 | 33.3 | 86.9 | 8.6  | 84.6 | 20   |
|    |    | PR |      | 75   | 15.3 | 50   | 39.1 | 91.3 | 33.3 | 71.4 | 52.3 | 81.8 | 28   | 82.7 | 45   | 82.7 | 40   | 79.1 | 77.4 | 88.8 | 66.6 | 70   | 35.1 | 77.2 | 43.3 | 66.6 | 15.3 | 91.3 | 15.3 | 80   |
| 19 | F  | PS | 100  | 50   |      | nf   |      | nf   |      | nf   | 100  | 87.5 | 92.8 | 93.3 | 100  | 71.4 |      | nf   | 100  | 80   | 93.3 | 41.6 | 100  | 33.3 |      | nf   | 100  | 28.5 | 100  | 40   |
|    |    | PR |      | 50   |      |      |      |      |      |      |      | 12.5 | 7.1  | 6.6  |      | 28.5 |      |      |      | 20   | 6.6  | 58.3 |      | 66.6 |      |      |      | 71.4 |      | 60   |
|    | B  | PS | 38.4 | 36.3 | 94.7 | 42.8 | 68.1 | 16.6 | 81.8 | 36.3 | 51.2 | 27.5 | 50   | 37.3 | 73.5 | 38.3 | 87   | 48.7 | 85.7 | 58.1 | 65.6 | 42.8 | 45.9 | 13.8 | 37.5 | 22.2 | 80   | 61.4 | 75.6 | 22.2 |
|    |    | PR | 61.5 | 63.6 | 5.2  | 57.1 | 31.8 | 83.3 | 18.1 | 63.6 | 48.7 | 72.4 | 50   | 62.6 | 26.4 | 61.6 | 12.9 | 51.2 | 14.2 | 41.8 | 34.3 | 57.1 | 54   | 86.1 | 62.5 | 77.7 | 20   | 38.5 | 24.3 | 77.7 |
| 20 | F  | PS |      | nf   |      | nf   | 100  | 75   | 100  | 80   | 100  | 87.5 | 100  | 78.5 | 88.8 | 38.4 | 100  | 50   | 100  | 78.9 | 100  | 72.2 | 100  | 68.7 | 100  | 62.5 | 100  | 50   | 100  | 72.7 |
|    |    | PR |      |      |      |      |      | 25   |      | 20   |      | 12.5 |      | 21.4 |      | 11.1 | 61.5 |      | 50   |      | 21   |      | 27.7 |      | 31.2 |      | 37.5 |      | 50   | 27.2 |
|    | B  | PS | 83.3 | 55.5 | 81.8 | 52.9 | 52.6 | 43.7 | 45.8 | 53.3 | 88.8 | 76   | 69.2 | 47   | 55.7 | 44.4 | 91.4 | 73.3 | 68.1 | 33.3 | 67.3 | 44.1 | 70.2 | 49   | 70.3 | 41   | 46.6 | 54.8 | 70   | 49.1 |
|    |    | PR | 16.6 | 44.4 | 18.1 | 47   | 47.3 | 56.2 | 54.1 | 46.6 | 11.1 | 24   | 30.7 | 52.9 | 44.2 | 55.5 | 8.5  | 26.6 | 31.8 | 66.6 | 32.6 | 58.1 | 29.7 | 50.9 | 29.6 | 58.9 | 53.3 | 45.1 | 30   | 50.8 |

(#/%)

Table 31. Self-corrections made by Subjects when Producing Narratives only, divided according to Foreground and Background Information

| Subj. | ES<br>DF    | T1                          | T2                                | T3                              | T4  | T5  | T6  | T7  | T8  | T9  | T10  | T11   | T12   | T13   | T14  |
|-------|-------------|-----------------------------|-----------------------------------|---------------------------------|---|---|---|---|---|---|--|---|---|---|--|
| S1    | Fore-ground | nf                          | T 1/100                           | nf                              | -   | N 1/100   | T 1/100   | -   | -   | T 1/100                                       | -  | L 1/100   | L 1/100   | nf  | T 1/50<br>A 1/50                                       |
|       | Back-ground | SC 1/100                    | T 1/100                           | L 3/50<br>SC 2/33.3<br>T 1/16.6 | L 4/66.6<br>A 1/16.6<br>S 1/16.6            | L 2/40<br>T 2/40<br>S 1/20                                      | L 4/57.1<br>SC 2/28.5<br>T 1/14.2                   | L 4/44.4<br>T 2/22.2<br>S 2/22.2<br>SC 1/11.1<br>A 1/11.1<br>N 1/11.1 | T 4/44.4<br>L 2/22.2<br>SC 1/11.1<br>A 1/11.1<br>N 1/11.1           | L 2/66.6<br>SC 1/33.3                         | L 4/40<br>SC 3/30<br>S 2/20<br>P 1/10                | SC 2/100  | L 2/66.6<br>SC 1/33.3   | N 4/44.4<br>S 2/22.2<br>SC 1/11.1<br>L 1/11.1<br>A 1/11.1 | L 12/66.6<br>SC 3/16.6<br>S 3/16.6                     |
| S2    | Fore-ground | L 1/100                     | L 1/100                           | SC 1/100                        | L 4/1/100                                   | L 3/75<br>T 1/25  | L 2/66.6<br>P 1/33.3                                | A 1/100   | S 3/60<br>L 1/20<br>T 1/20  | L 2/66.6<br>SC 1/33.3                         | SC 2/33.3<br>S 2/33.3<br>P 1/16.6<br>N 1/16.6        | SC 7/43.7<br>L 7/43.7<br>T 1/6.2<br>P 1/6.2             | -   | L 1/100   | SC 2/50<br>L 2/50                                      |
|       | Back-ground | L 3/60<br>SC 1/20<br>T 1/20 | L 3/42.8<br>T 3/42.8<br>SC 1/14.2 | SC 1/100                        | L 3/50<br>SC 1/16.6<br>T 1/16.6<br>S 1/16.6 | L 7/87.5<br>T 1/12.5  | L 8/80<br>SC 1/10<br>S 1/10                         | L 10/66.6<br>T 2/13.3<br>SC 1/6.6<br>A 1/6.6<br>S 1/6.6               | L 7/53.8<br>SC 4/30.7<br>T 1/7.6<br>S 1/7.6                         | L 11/73.3<br>A 2/13.3<br>SC 1/6.6<br>P 1/6.6  | L 6/50<br>SC 3/25<br>A 1/8.3<br>N 1/8.3<br>S 1/8.3   | L 11/73.3<br>SC 3/20<br>A 1/6.6                         | L 12/44.4<br>N 6/22.2<br>SC 5/18.5<br>S 2/7.4<br>T 1/3.7<br>A 1/3.7 | L 13/68.4<br>T 3/15.7<br>S 3/15.7                         | L 5/38.4<br>SC 5/38.4<br>T 1/7.6<br>P 1/7.6<br>S 1/7.6 |
| S3    | Fore-ground | SC 3/60<br>L 1/20<br>P 1/20 | L 2/66.6<br>T 1/33.3              | L 3/100                         | L 1/50<br>T 1/50                            | SC 1/33.3<br>L 1/33.3<br>T 1/33.3                               | SC 2/25<br>L 2/25<br>A 2/25<br>T 1/12.5<br>N 1/12.5 | T 3/60<br>L 1/20<br>P 1/20  | L 2/50<br>SC 1/25<br>T 1/25   | T 3/60<br>SC 2/40                             | L 8/50<br>T 4/25<br>P 2/12.5<br>N 1/12.5<br>S 1/12.5 | A 1/100   | L 3/75<br>SC 1/25   | SC 1/50<br>L 1/50   | L 1/100  |
|       | Back-ground | L 7/63.6<br>SC 4/36.3       | SC 5/45.4<br>L 3/27.2<br>T 3/27.2 | L 3/75<br>SC 1/25               | L 6/54.5<br>SC 4/36.3<br>T 1/9              | L 8/44.4<br>SC 7/38.8<br>T 2/11.1<br>A 1/11.1                   | SC 5/71.4<br>L 1/14.2<br>N 1/14.2                   | SC 3/33.3<br>L 2/22.2<br>T 2/22.2<br>P 1/11.1<br>S 1/11.1             | L 15/57.6<br>T 5/19.2<br>SC 3/11.5<br>A 1/3.8<br>P 1/3.8<br>S 1/3.8 | T 9/45<br>L 6/30<br>SC 3/15<br>A 1/5<br>P 1/5 | L 7/58.3<br>SC 5/41.6                                | L 11/44<br>SC 5/20<br>T 4/16<br>P 2/8<br>N 2/8<br>A 1/4 | L 7/36.8<br>T 6/31.5<br>P 4/21<br>SC 1/5.2<br>A 1/5.2               | L 10/76.9<br>SC 2/15.3<br>T 1/7.6                         | L 4/57.1<br>SC 2/28.5<br>S 1/14.2                      |
| S4    | Fore-ground | -                           | L 2/50<br>SC 1/25<br>P 1/25       | -                               | T 1/33.3<br>L 1/33.3<br>N 1/33.3            | L 9/60<br>T 2/13.3<br>SC 1/6.6<br>P 1/6.6<br>N 1/6.6<br>S 1/6.6 | SC 2/40<br>L 1/20<br>T 1/20<br>P 1/20               | L 2/50<br>SC 1/25<br>T 1/25   | L 1/50<br>T 1/50  | P 4/50<br>L 3/37.5<br>SC 1/12.5               | T 5/50<br>SC 3/30<br>L 1/10<br>P 1/10                | L 4/57.1<br>T 3/42.8                                    | L 5/83.3<br>A 1/16.6  | L 2/66.6<br>S 1/33.3                                      | T 3/42.8<br>P 2/28.5<br>L 1/14.2<br>S 1/14.2           |

Legend: Subj. = subject; DF = discourse function; ES = elicitation session; T1, T2, etc. = the first elicitation session, the second elicitation session, etc. nf = no foreground information; nb = no background information

"-." = no self-correction made when expressing the particular information SC = syntactic change; L = lexical item; T = tense; P = pronoun; S = sound (i.e., pronunciation); N = noun number; A = article, both definite and indefinite

#/% = number of instances the particular type of self-correction was made/percentage of the number in the total number of instances of self-correction made when expressing the particular information in the particular elicitation session.

| #/%   |             |                                   |                                   |   |                                       |   |  |   |   |  |  |   |   |  |   |  |
|-------|-------------|-----------------------------------|-----------------------------------|---|---------------------------------------|---|--|---|---|--|--|---|---|--|---|--|
| Subj. | ES          | DF                                | T1                                | T2  | T3                                    | T4  | T5   | T6  | T7  | T8   | T9   | T10   | T11   | T12  | T13   | T14  |
| S4    | Back-ground | -                                 | SC 1/33.3<br>L 1/33.3<br>P 1/33.3 | L 4/57.1<br>SC 2/28.5<br>P 1/14.2             | L 2/50<br>T 1/25<br>SC 1/25           | T 5/50<br>L 3/30<br>P 1/10<br>N 1/10          | SC 7/50<br>L 2/14.2<br>N 2/14.2<br>T 1/7.1<br>P 1/7.1<br>S 1/7.1 | T 3/37.5<br>SC 2/25<br>L 1/12.5<br>P 1/12.5<br>S 1/12.5   | A 3/42.8<br>L 2/28.5<br>SC 1/14.2<br>N 1/14.2           | L 11/47.8<br>SC 6/26<br>P 4/17.3<br>T 1/4.3<br>S 1/4.3 | L 5/38.4<br>T 3/23<br>SC 3/23<br>P 2/15.3              | L 5/62.5<br>SC 2/25<br>A 1/12.5               | L 5/31.2<br>SC 4/25<br>P 3/18.7<br>S 2/12.5<br>T 1/6.2<br>N 1/6.2 | L 9/69.2<br>P 2/15.3<br>SC 1/7.6<br>T 1/7.6                          | L 4/36.3<br>SC 4/36.3<br>T 3/27.2                                 |  |
|       |             | Fore-ground                       | nf                                | L 1/100                                       | L 1/100                               | SC 1/50<br>T 1/50                             | L 1/50<br>P 1/50   | L 2/100   | L 2/50<br>SC 2/50                                       | L 1/50<br>T 1/50                                       | L 1/50<br>T 1/50                                       | L 1/100                                       | T 4/57.1<br>L 3/42.8  | nf   | T 3/42.8<br>L 3/42.8<br>SC 1/14.2                                 | L 4/66.6<br>SC 1/16.6<br>T 1/16.6                      |
| S5    | Back-ground | -                                 | T 3/60<br>SC 1/20<br>N 1/20       | SC 3/42.8<br>A 2/28.5<br>P 1/14.2<br>S 1/14.2 | L 2/66.6<br>T 1/33.3                  | L 4/57.1<br>T 3/42.8                          | SC 3/42.8<br>L 2/28.5<br>T 2/28.5                                | T 3/75<br>SC 1/25   | L 4/57.1<br>T 3/42.8                                    | -  | SC 1/50<br>T 1/50                                      | SC 2/33.3<br>T 2/33.3<br>L 1/16.6<br>N 1/16.6 | -   | SC 3/27.2<br>L 3/27.2<br>T 2/18.1<br>P 2/18.1<br>S 1/9               | SC 4/40<br>T 4/40<br>L 2/20                                       |  |
|       |             | Fore-ground                       | nf                                | SC 1/50<br>L 1/50                             | nf                                    | L 1/100                                       | L 1/50<br>S 1/50   | SC 2/40<br>L 2/40<br>T 1/20                               | L 4/66.6<br>A 1/16.6<br>P 1/16.6                        | -  | nf   | L 3/100                                       | SC 4/57.1<br>L 2/28.5<br>T 1/14.2                                 | L 3/37.5<br>T 2/25<br>SC 1/12.5<br>A 1/12.5<br>P 1/12.5              | L 2/100   | L 2/50<br>T 1/25<br>P 1/25                             |
| S6    | Back-ground | SC 2/100                          | SC 1/33.3<br>L 1/33.3<br>N 1/33.3 | SC 6/75<br>L 2/25                             | L 3/30<br>SC 3/30<br>T 3/30<br>N 1/10 | L 2/33.3<br>SC 2/33.3<br>T 1/16.6<br>P 1/16.6 | L 8/66.6<br>T 3/25<br>S 1/8.3                                    | L 7/41.1<br>SC 4/23.5<br>T 2/11.7<br>P 2/11.7<br>S 2/11.7 | SC 4/80<br>N 1/20                                       | L 6/42.8<br>SC 4/28.5<br>T 4/28.5                      | SC 3/60<br>L 1/20<br>T 1/20                            | SC 5/55.5<br>L 3/33.3<br>T 1/11.1             | SC 7/87.5<br>L 1/12.5   | L 3/21.4<br>T 3/21.4<br>P 3/21.4<br>SC 2/14.2<br>A 2/14.2<br>N 1/7.1 | T 4/57.1<br>SC 2/28.5<br>L 1/14.2                                 |  |
|       |             | Fore-ground                       | L 1/100                           | SC 2/66.6<br>P 1/33.3                         | SC 1/50<br>P 1/50                     | L 1/100                                       | L 1/33.3<br>T 1/33.3<br>A 1/33.3                                 | SC 2/66.6<br>L 1/33.3                                     | SC 3/37.5<br>L 3/37.5<br>T 1/12.5<br>N 1/12.5           | SC 3/37.5<br>L 3/37.5<br>T 1/12.5<br>P 1/12.5          | L 5/38.4<br>SC 3/23<br>A 2/15.3<br>P 2/15.3<br>T 1/7.6 | S 3/50<br>L 2/33.3<br>SC 1/16.6               | L 5/55.5<br>T 3/33.3<br>S 1/11.1                                  | T 2/66.6<br>L 1/33.3   | SC 3/60<br>L 1/20<br>T 1/20                                       | L 4/36.3<br>SC 2/18.1<br>P 2/18.1<br>S 2/18.1<br>T 1/9 |
| S7    | Back-ground | T 4/57.1<br>SC 2/28.5<br>P 1/14.2 | L 3/42.8<br>T 3/42.8<br>P 1/14.2  | L 4/33.3<br>T 4/33.3<br>SC 3/25<br>A 1/8.3    | SC 3/50<br>L 2/33.3<br>P 1/16.6       | T 6/37.5<br>SC 5/31.2<br>L 5/31.2             | SC 9/50<br>L 6/33.3<br>T 2/11.1<br>A 1/5.5                       | L 3/42.8<br>SC 2/28.5<br>T 1/14.2<br>P 1/14.2             | SC 9/34.6<br>T 8/30.7<br>L 7/26.9<br>P 1/3.8<br>A 1/3.8 | SC 13/72.2<br>L 3/16.6<br>T 1/5.5<br>P 1/5.5           | SC 9/47.3<br>L 6/31.5<br>T 4/21                        | SC 9/42.8<br>L 7/33.3<br>T 4/19<br>A 1/4.7    | L 8/38<br>T 7/33.3<br>SC 5/23.8<br>N 1/4.7                        | T 7/28<br>SC 6/24<br>P 6/24<br>P 5/20<br>S 1/4                       | L 7/38.8<br>T 4/22<br>SC 3/16.6<br>A 2/11.1<br>P 1/5.5<br>S 1/5.5 |  |

(#/%)

| Subj. | ES<br>DF    | T1                | T2                          | T3                                | T4  | T5  | T6  | T7   | T8  | T9  | T10   | T11   | T12  | T13   | T14  |
|-------|-------------|-------------------|-----------------------------|-----------------------------------|---|---|---|--|---|---|---|---|--|---|--|
| S8    | Fore-ground | nf                | L 3/60<br>T 1/20<br>P 1/20  | L 3/100                           | L 1/100   | nf  | L 7/77.7<br>SC 1/11.1<br>T 1/11.1                               | L 3/100  | L 7/63.6<br>SC 2/18.1<br>P 1/9<br>S 1/9               | L 2/40<br>SC 1/20<br>T 1/20<br>P 1/20                   | SC 1/100  | L 1/25<br>SC 1/25<br>T 1/25<br>P 1/25                   | P 3/60<br>L 2/40   | L 9/42.8<br>SC 7/33.3<br>P 3/14.2<br>T 1/4.7<br>N 1/4.7 | L 9/52.9<br>SC 3/17.6<br>P 3/17.6<br>T 2/11.7          |
|       | Back-ground | -                 | L 2/40<br>SC 2/40<br>T 1/20 | L 1/50<br>T 1/50                  | SC 7/58.3<br>L 4/33.3<br>T 1/8.3                  | L 16/76.1<br>A 2/9.5<br>SC 1/4.7<br>T 1/4.7<br>N 1/4.7                | L 8/57.1<br>P 3/21.4<br>T 2/14.2<br>N 1/7.1                     | L 7/58.3<br>SC 4/33.3<br>P 1/8.3                         | L 3/42.8<br>SC 2/28.5<br>T 2/28.5                     | L 9/52.9<br>T 3/17.6<br>N 3/17.6<br>SC 1/5.8<br>P 1/5.8 | L 8/50<br>SC 4/25<br>P 2/12.5<br>T 1/6.2<br>S 1/6.2       | L 10/62.5<br>SC 4/25<br>T 2/12.5                        | L 10/76.9<br>SC 3/23   | L 6/37.5<br>T 6/37.5<br>P 3/18.7<br>N 1/6.2             | L 18/54.5<br>SC 9/27.2<br>T 4/12.1<br>A 1/3<br>P 1/3   |
| S9    | Fore-ground | nf                | nf                          | SC 6/85.7<br>L 1/14.2             | T 3/37.5<br>L 2/25<br>P 2/25<br>SC 1/12.5         | P 3/42.8<br>L 2/28.5<br>T 2/28.5                                      | SC 5/33.3<br>L 3/20<br>T 3/20<br>P 2/13.3<br>A 1/6.6<br>S 1/6.6 | SC 4/36.3<br>L 3/27.2<br>P 3/27.2<br>S 1/9               | L 6/35.2<br>P 5/29.4<br>T 4/23.5<br>SC 2/11.7         | L 6/54.5<br>P 3/27.2<br>SC 1/9<br>S 1/9                 | T 4/36.3<br>L 3/27.2<br>SC 1/9<br>P 1/9<br>N 1/9<br>S 1/9 | SC 7/36.8<br>L 5/26.3<br>T 5/26.3<br>P 1/5.2<br>S 1/5.2 | L 4/40<br>SC 2/20<br>T 2/20<br>P 1/10<br>N 1/10                    | L 4/44.4<br>T 3/33.3<br>P 1/11.1<br>N 1/11.1            | L 12/50<br>P 5/20.8<br>SC 4/16.6<br>T 2/8.3<br>A 1/4.1 |
|       | Back-ground | SC 2/40<br>L 3/60 | nb                          | L 4/57.1<br>SC 2/28.5<br>T 1/14.2 | L 20/50<br>L 8/20<br>P 7/17.5<br>T 3/7.5<br>N 2/5 | L 13/33.3<br>SC 12/30.7<br>T 7/17.9<br>P 4/10.2<br>N 2/5.1<br>S 1/2.5 | L 15/68.1<br>T 4/18.1<br>SC 1/4.5<br>P 1/4.5<br>N 1/4.5         | SC 10/62.5<br>L 2/12.5<br>P 2/12.5<br>T 1/6.2<br>A 1/6.2 | T 8/33.3<br>SC 7/29.1<br>L 6/25<br>P 2/8.3<br>N 1/4.1 | L 14/42.4<br>SC 14/42.4<br>P 3/9<br>T 2/6               | L 6/31.5<br>SC 4/21<br>T 4/21<br>P 4/21<br>A 1/5.2        | L 12/54.5<br>T 5/22.7<br>SC 4/18.1<br>P 1/4.5           | L 13/54.1<br>SC 5/20.8<br>N 2/8.3<br>S 2/8.3<br>T 1/4.3<br>P 1/4.3 | SC 11/37.9<br>L 10/34.4<br>T 4/13.7<br>S 4/13.7         | SC 16/51.6<br>T 9/29<br>L 5/16.1<br>S 1/3.2            |
| S10   | Fore-ground | nf                | nf                          | L 5/83.3<br>T 1/16.6              | P 1/100   | L 1/25<br>T 1/25<br>SC 1/25<br>P 1/25                                 | L 5/41.6<br>SC 4/33.3<br>T 2/16.6<br>N 1/8.3                    | nf   | L 3/75<br>P 1/25                                      | nf  | nf  | L 2/40<br>SC 1/20<br>T 1/20<br>P 1/20                   | nf   | nf  | L 3/100  |
|       | Back-ground | SC 1/50<br>S 1/50 | nb                          | T 6/50<br>L 4/33.3<br>N 2/16.6    | L 2/40<br>T 2/40<br>N 1/20                        | L 9/50<br>P 3/16.6<br>SC 2/11.1<br>T 2/11.1<br>N 2/11.1               | L 6/46.1<br>T 3/23<br>P 2/15.3<br>SC 1/7.6<br>S 1/7.6           | L 3/33.3<br>SC 3/33.3<br>S 2/22.2<br>T 1/11.1            | L 10/71.4<br>T 2/14.2<br>SC 1/7.1<br>P 1/7.1          | L 4/66.6<br>SC 2/33.3                                   | L 3/42.8<br>S 2/28.5<br>SC 1/14.2<br>P 1/14.2             | L 4/100   | L 5/62.5<br>T 2/25<br>SC 1/12.5                                    | L 8/40<br>T 5/25<br>P 3/15<br>S 2/10<br>SC 1/5<br>N 1/5 | L 8/47<br>T 4/23.5<br>SC 3/17.6<br>P 1/5.8<br>S 1/5.8  |

|       |             |                                   |  |  |   |  |   |  |  |  |   |   |  |   |  | (H/%) |  |
|-------|-------------|-----------------------------------|--|--|---|--|---|--|--|--|---|---|--|---|--|-------|--|
| Subj. | ES          | T1                                | T2   | T3   | T4  | T5   | T6  | T7   | T8   | T9   | T10   | T11   | T12  | T13   | T14  |       |  |
| DF    |             |                                   |  |  |   |  |   |  |  |  |   |   |  |   |  |       |  |
| S11   | Fore-ground | SC 1/50<br>L 1/50                 | nf   | nf   | nf  | L 8/61.5<br>P 3/23<br>SC 2/15.3  | L 10/62.5<br>A 2/12.5<br>S 2/12.5<br>SC 1/6.2<br>P 1/6.2            | L 20/57.1<br>SC 8/22.8<br>P 3/8.5<br>S 2/5.7<br>T 1/2.8<br>A 1/2.8 | L 4/66.6<br>SC 2/33.3                        | SC 4/40<br>L 4/40<br>T 1/10<br>A 1/10          | SC 13/50<br>L 9/34.6<br>P 2/7.6<br>T 1/3.8<br>N 1/3.8               | L 7/87.5<br>SC 1/12.5   | L 10/58.8<br>SC 4/23.5<br>T 2/11.7<br>P 1/5.8                      | L 3/75<br>T 1/25  | L 4/40<br>SC 4/40<br>T 2/20                              |       |  |
|       | Back-ground | L 8/66.6<br>SC 4/33.3             | nb   | L 19/67.8<br>SC 8/28.5<br>T 1/3.5                      | L 14/53.8<br>SC 8/30.7<br>T 2/7.6<br>A 1/3.8<br>S 1/3.8 | L 19/73<br>SC 3/11.5<br>P 3/11.5<br>S 1/3.8                                | L 40/68.9<br>SC 10/17.2<br>S 3/5.1<br>A 2/3.4<br>N 2/3.4<br>T 1/1.7 | L 14/66.6<br>SC 7/33.3   | L 19/61.2<br>SC 12/38.7                      | SC 10/50<br>L 5/25<br>P 3/15<br>T 1/5<br>A 1/5 | SC 13/44.8<br>L 10/34.4<br>A 2/6.8<br>S 2/6.8<br>T 1/3.4<br>P 1/3.4 | L 28/56<br>SC 13/26<br>P 6/12<br>T 1/2<br>A 1/2<br>S 1/2            | L 8/53.3<br>SC 5/33.3<br>P 1/6.6<br>S 1/6.6                        | L 18/48.6<br>SC 12/32.4<br>T 3/8.1<br>S 2/5.4<br>A 1/2.7<br>P 1/2.7 | L 36/70.5<br>SC 12/23.5<br>A 1/1.9<br>P 1/1.9<br>S 1/1.9 |       |  |
| S12   | Fore-ground | nf                                | nf   | SC 1/20<br>T 1/20<br>L 1/20<br>P 1/20<br>N 1/20        | nf  | nf   | L 6/46.1<br>SC 4/30.7<br>T 2/15.3<br>A 1/7.6                        | nf   | nf   | L 1/20<br>T 1/20<br>A 1/20<br>P 1/20<br>S 1/20 | nf  | T 2/66.6<br>P 1/33.3  | A 1/100  | nf  | L 1/100  |       |  |
|       | Back-ground | L 1/33.3<br>SC 1/33.3<br>P 1/33.3 | nb   | L 4/50<br>T 1/12.5<br>P 1/12.5<br>N 1/12.5<br>S 1/12.5 | P 5/71.4<br>L 2/28.5                                    | L 6/28.5<br>T 4/19<br>S 4/19<br>SC 3/14.2<br>P 2/9.5<br>A 1/4.7<br>N 1/4.7 | SC 2/28.5<br>L 2/28.5<br>P 2/28.5<br>T 1/14.2                       | L 5/33.3<br>T 3/20<br>S 3/20<br>SC 2/13.3<br>N 2/13.3              | L 2/33.3<br>T 2/33.3<br>N 1/16.6<br>S 1/16.6 | SC 4/40<br>T 2/20<br>L 2/20<br>S 2/20          | T 2/40<br>S 2/40<br>L 1/20  | T 4/26.6<br>SC 3/20<br>L 3/20<br>S 3/20<br>P 1/6.6<br>N 1/6.6       | L 5/33.3<br>T 4/26.6<br>N 3/20<br>SC 2/13.3<br>S 1/6.6             | T 2/40<br>L 1/20<br>P 1/20<br>S 1/20                                | L 10/71.4<br>T 4/28.5                                    |       |  |
| S13   | Fore-ground | nf                                | SC 1/50<br>T 1/50                          | nf   | -   | L 4/40<br>P 2/20<br>SC 1/10<br>T 1/10<br>A 1/10<br>N 1/10                  | SC 1/50<br>T 1/50   | T 2/66.6<br>S 1/33.3   | SC 1/50<br>T 1/50                            | nf   | nf  | SC 3/50<br>L 2/33.3<br>P 1/16.6                                     | -  | L 1/100   | L 1/100  |       |  |
|       | Back-ground | -                                 | SC 9/50<br>L 5/27.7<br>T 3/16.6<br>P 1/5.5 | L 6/46.1<br>SC 5/38.4<br>T 1/7.6<br>N 1/7.6            | SC 13/72.2<br>L 3/16.6<br>P 2/11.1                      | SC 11/50<br>L 4/18.1<br>T 4/18.1<br>A 1/4.5<br>P 1/4.5<br>N 1/4.5          | SC 3/37.5<br>L 3/37.5<br>T 1/12.5<br>P 1/12.5                       | SC 5/33.3<br>L 4/26.6<br>T 3/20<br>S 2/13.3<br>N 1/6.6             | L 6/60<br>SC 2/20<br>T 2/20                  | T 8/42.1<br>L 6/31.5<br>SC 5/26.3              | L 3/100   | L 10/55.5<br>T 3/16.6<br>P 2/11.1<br>SC 1/5.5<br>N 1/5.5<br>S 1/5.5 | L 13/43.3<br>T 7/23.3<br>SC 4/13.3<br>N 3/10<br>S 2/6.6<br>A 1/3.3 | L 7/41.1<br>SC 3/17.6<br>T 3/17.6<br>S 2/11.7<br>P 1/5.8<br>A 1/5.8 | L 30/58.1<br>SC 6/13.6<br>N 5/11.3<br>S 2/4.5<br>P 1/2.2 |       |  |

(#/%)

| Subj. | ES<br>DF    | T1  | T2   | T3  | T4   | T5   | T6  | T7  | T8  | T9  | T10  | T11  | T12   | T13   | T14  |
|-------|-------------|---|--|---|--|--|---|---|---|---|--|--|---|---|--|
| S14   | Fore-ground | nf  | L 11/52.3<br>P 5/23.8<br>SC 3/14.2<br>T 1/4.7<br>N 1/4.7 | L 5/55.5<br>SC 1/11.1<br>T 1/11.1<br>P 1/11.1<br>N 1/11.1 | SC 2/66.6<br>L 1/33.3                          | SC 1/100                                     | L 2/66.6<br>T 1/33.3                                    | SC 3/60<br>L 2/40   | nf  | L 3/42.8<br>T 2/28.5<br>P 1/14.2<br>N 1/14.2            | nf   | SC 1/100   | T 2/33.3<br>SC 1/16.6<br>L 1/16.6<br>A 1/16.6<br>S 1/16.6         | L 3/50<br>S 2/33.3<br>T 1/16.6                          | L 1/100  |
|       | Back-ground | L 6/40<br>SC 5/33.3<br>P 2/13.3<br>T 1/6.6<br>S 1/6.6 | T 3/75<br>N 1/25   | L 4/40<br>P 3/30<br>SC 2/20<br>T 1/10                     | L 10/50<br>T 7/35<br>SC 2/10<br>P 1/5          | L 11/57.8<br>SC 6/31.5<br>N 1/5.2<br>S 1/5.2 | L 11/57.8<br>SC 6/31.5<br>P 1/5.2<br>N 1/5.2            | L 10/43.4<br>SC 7/30.4<br>T 4/17.3<br>P 2/8.6             | L 17/62.9<br>SC 4/14.8<br>P 4/14.8<br>S 2/7.4                               | L 3/27.2<br>SC 3/27.2<br>T 2/18.1<br>P 2/18.1<br>N 1/9  | L 19/63.3<br>SC 5/16.6<br>P 3/10<br>S 2/6.6<br>T 1/3.3   | L 13/61.9<br>SC 5/23.8<br>S 2/9.5<br>T 1/4.7           | L 15/50<br>T 5/16.6<br>SC 4/13.3<br>P 3/10<br>N 2/6.6<br>S 1/3.3  | L 20/54<br>SC 9/24.3<br>T 4/10.8<br>S 3/8.1<br>P 1/2.7  | L 15/37.5<br>SC 10/25<br>T 5/12.5<br>P 5/12.5<br>S 3/7.5<br>A 1/2.5<br>N 1/2.5 |
| S15   | Fore-ground | SC 1/100  | L 1/100  | L 3/75<br>SC 1/25   | L 4/80<br>P 1/20                               | L 5/62.5<br>P 2/25<br>T 1/12.5               | L 11/91.6<br>T 1/8.3                                    | nf  | L 2/33.3<br>SC 2/33.3<br>T 1/16.6<br>P 1/16.6                               | L 4/50<br>T 2/25<br>SC 1/12.5<br>S 1/12.5               | L 6/60<br>SC 3/30<br>T 1/10                              | L 4/66.6<br>SC 1/16.6<br>P 1/16.6                      | L 9/45<br>SC 6/30<br>T 2/10<br>P 2/10<br>S 1/5                    | L 8/66.6<br>T 2/16.6<br>SC 1/8.3<br>S 1/8.3             | L 4/57.1<br>T 2/28.5<br>P 1/14.2   |
|       | Back-ground | SC 3/60<br>L 1/20<br>T 1/20                           | L 3/50<br>SC 3/50  | SC 7/46.6<br>L 6/40<br>T 2/13.3                           | L 4/50<br>SC 2/25<br>T 2/25                    | L 11/57.8<br>SC 4/21<br>T 2/10.5<br>P 2/10.5 | L 8/57.1<br>SC 2/14.2<br>S 2/14.2<br>T 1/7.1<br>P 1/7.1 | L 10/50<br>SC 5/25<br>P 3/15<br>T 1/5<br>S 1/5            | L 9/50<br>P 3/16.6<br>SC 2/11.1<br>T 1/5.5<br>A 1/5.5<br>N 1/5.5<br>S 1/5.5 | L 10/37<br>T 7/25.9<br>P 5/18.5<br>SC 4/14.8<br>S 1/3.7 | L 10/47.6<br>SC 6/28.5<br>P 3/14.2<br>N 1/4.7<br>S 1/4.7 | L 17/73.9<br>SC 2/8.6<br>T 2/8.6<br>P 1/4.3<br>N 1/4.3 | L 12/50<br>T 6/25<br>SC 3/12.5<br>P 2/8.3<br>S 1/4.1              | L 19/67.8<br>SC 6/21.4<br>S 2/7.1<br>P 1/3.5            | L 9/52.9<br>SC 3/17.6<br>N 2/11.7<br>T 1/5.8<br>A 1/5.8<br>S 1/5.8             |
| S16   | Fore-ground | L 2/40<br>SC 2/40<br>P 1/20                           | L 6/60<br>SC 3/30<br>P 1/10                              | L 3/50<br>SC 1/16.6<br>T 1/16.6<br>N 1/16.6               | L 5/55.5<br>T 3/33.3<br>P 1/11.1               | L 9/56.2<br>T 4/25<br>SC 2/12.5<br>P 1/6.2   | T 5/38.4<br>SC 3/23<br>L 3/23<br>SC 2/15.3              | L 4/40<br>P 2/20<br>S 2/20<br>SC 1/10<br>T 1/10           | L 4/50<br>T 2/25<br>SC 1/12.5<br>S 1/12.5                                   | L 6/54.5<br>P 2/18.1<br>SC 1/9<br>T 1/9<br>S 1/9        | L 7/53.8<br>P 4/30.7<br>SC 1/7.6                         | nf   | nf  | nf  | L 5/55.5<br>SC 2/22.2<br>T 1/11.1<br>P 1/11.1                                  |
|       | Back-ground | L 2/66.6<br>T 1/33.3                                  | L 11/44<br>SC 5/20<br>T 5/20<br>P 3/12<br>N 1/4          | L 7/50<br>SC 4/28.5<br>T 1/7.1<br>P 1/7.1<br>S 1/7.1      | T 6/30<br>P 5/25<br>SC 4/20<br>L 4/20<br>S 1/4 | L 6/33.3<br>SC 6/33.3<br>T 5/27.7<br>N 1/5.5 | L 13/48.1<br>SC 11/40.7<br>T 2/7.4<br>A 1/3.7           | L 11/39.2<br>SC 8/28.5<br>T 5/17.8<br>S 3/10.7<br>P 1/3.5 | L 4/25<br>SC 4/25<br>T 3/18.7<br>N 2/12.5<br>S 2/12.5<br>P 1/6.2            | L 9/40.9<br>SC 9/40.9<br>T 4/18.1                       | L 11/64.7<br>SC 4/23.5<br>T 1/5.8<br>P 1/5.8             | nb   | L 34/50<br>P 15/22<br>SC 9/13.2<br>T 7/10.2<br>S 2/2.9<br>A 1/1.4 | L 19/51.3<br>SC 10/27<br>T 5/13.5<br>S 2/5.4<br>P 1/2.7 | L 13/52<br>SC 6/24<br>T 3/12<br>P 1/4<br>N 1/4<br>S 1/4                        |

(#/%)

| Subj. | ES<br>DF    | T1                               | T2                                       | T3  | T4  | T5  | T6  | T7   | T8  | T9   | T10  | T11  | T12  | T13   | T14   |
|-------|-------------|----------------------------------|--|---|---|---|---|--|---|--|--|--|--|---|---|
| S17   | Fore-ground | L 4/66.6<br>SC 2/33.3            | L 3/50<br>SC 2/33.3<br>P 1/16.6          | SC 2/66.6<br>L 1/33.3                         | L 4/66.6<br>T 1/16.6<br>P 1/16.6  | SC 3/30<br>P 3/30<br>L 2/20<br>T 2/20                   | L 6/50<br>SC 3/25<br>T 2/16.6<br>N 1/8.3                              | L 7/53.8<br>SC 3/23<br>T 2/15.3<br>A 1/7.6                                       | SC 7/70<br>L 2/20<br>S 1/10                             | SC 2/40<br>L 1/20<br>T 1/20<br>P 1/20          | SC 7/53.8<br>L 3/25<br>T 1/8.3<br>S 1/8.3                | L 2/28.5<br>SC 2/28.5<br>S 2/28.5<br>A 1/14.2                              | L 9/50<br>SC 8/44.4<br>T 1/5.5                 | SC 7/43.7<br>L 6/37.5<br>T 2/12.5<br>P 1/6.2              | L 9/45<br>SC 8/40<br>A 1/5<br>P 1/5<br>S 1/5              |
|       | Back-ground | L 2/100                          | L 13/59<br>SC 6/27.2<br>P 2/9<br>T 1/4.5 | L 7/53.8<br>T 3/23<br>SC 2/15.3<br>S 1/7.6    | L 10/43.4<br>SC 7/30.4<br>P 5/21.7<br>T 1/3.8   | L 8/47<br>T 5/29.4<br>SC 2/11.7<br>P 2/11.7             | L 8/44.4<br>SC 8/44.4<br>T 2/11.1                                     | L 5/45.4<br>SC 3/27.2<br>P 2/18.1<br>S 1/9                                       | L 4/57.1<br>SC 1/14.2<br>T 1/14.2<br>S 1/14.2           | L 6/66.6<br>SC 2/22.2<br>T 1/11.1              | L 12/44.4<br>SC 8/29.6<br>P 5/18.5<br>T 1/3.7<br>A 1/3.7 | L 6/37.5<br>SC 5/31.2<br>T 3/18.7<br>A 1/6.2<br>S 1/6.2                    | L 6/37.5<br>SC 5/31.2<br>T 4/25<br>A 1/6.2     | P 3/50<br>SC 2/33.3<br>L 1/16.6                           | L 9/40.9<br>SC 7/31.8<br>P 3/13.6<br>N 2/9<br>A 1/4.5     |
| S18   | Fore-ground | L 1/100                          | nf                                       | -   | nf  | nf  | -   | L 3/75<br>A 1/25   | nf  | nf   | nf   | SC 2/50<br>L 1/25<br>T 1/25  | T 2/50<br>L 1/25<br>SC 1/25                    | L 3/30<br>SC 3/30<br>T 3/30<br>S 1/10                     | L 7/58.3<br>SC 2/16.6<br>S 2/16.6<br>T 1/8.3              |
|       | Back-ground | P 2/100                          | L 4/66.6<br>T 1/16.6<br>P 1/16.6         | L 5/71.4<br>SC 1/14.2<br>N 1/14.2             | L 6/75<br>SC 2/25   | L 3/50<br>SC 2/33.3<br>T 1/16.6                         | L 3/50<br>SC 2/33.3<br>T 1/16.6                                       | SC 4/57.1<br>L 2/28.5<br>S 1/14.2  | SC 8/53.3<br>L 4/26.6<br>P 3/20                         | L 7/70<br>SC 2/20<br>T 1/10                    | L 5/62.5<br>SC 1/12.5<br>T 1/12.5<br>S 1/12.5            | L 4/26.6<br>SC 3/20<br>T 3/20<br>P 2/13.3<br>N 1/6.6<br>S 1/6.6<br>A 1/6.6 | L 7/46.6<br>SC 3/20<br>S 3/20<br>T 2/13.3      | L 7/46.6<br>SC 5/33.3<br>T 2/13.3<br>S 1/6.6              | L 8/44.4<br>SC 6/33.3<br>S 3/16.6<br>T 1/5.5              |
| S19   | Fore-ground | L 1/33.3<br>T 1/33.3<br>A 1/33.3 | nf                                       | nf  | nf  | L 2/100   | L 6/46.1<br>SC 2/15.3<br>T 2/15.3<br>P 2/15.3<br>A 1/7.6              | L 3/75<br>T 1/25   | nf  | L 5/50<br>SC 3/30<br>P 1/10<br>S 1/10          | L 6/66.6<br>SC 3/33.3                                    | L 1/50<br>SC 1/50  | nf   | SC 3/100  | L 3/75<br>P 1/25  |
|       | Back-ground | SC 2/50<br>L 1/25<br>N 1/25      | L 5/50<br>SC 2/20<br>P 2/20<br>A 1/10    | L 10/58.8<br>P 4/23.5<br>SC 2/11.7<br>S 1/5.8 | SC 3/37.5<br>L 1/12.5<br>L 6/24<br>T 1/12.5<br>T 4/16<br>P 1/12.5<br>A 2/8<br>A 1/12.5<br>S 2/8<br>S 1/12.5 | SC 10/40<br>L 6/24<br>T 4/16<br>A 2/8<br>S 2/8<br>P 1/4 | SC 14/37.8<br>L 8/21.6<br>L 8/21.6<br>T 8/21.6<br>S 6/16.2<br>N 1/2.7 | L 16/34.7<br>SC 15/32.6<br>T 10/21.7<br>N 2/4.3<br>A 1/2.1<br>P 1/2.1<br>S 1/2.1 | L 12/46.1<br>SC 9/34.6<br>T 2/7.6<br>S 2/7.6<br>P 1/3.8 | T 10/33.3<br>SC 8/26.6<br>L 7/23.3<br>B 5/16.6 | SC 8/53.3<br>L 4/26.6<br>T 1/6.6<br>N 1/6.6<br>S 1/6.6   | L 9/42.8<br>SC 3/14.2<br>P 3/14.2<br>A 2/9.5<br>N 2/9.5<br>S 2/9.5         | L 11/44<br>SC 11/44<br>T 1/4<br>N 1/4<br>S 1/4 | L 11/35.4<br>T 8/25.8<br>SC 7/22.5<br>P 4/12.9<br>N 1/3.2 | SC 11/40.7<br>L 7/25.9<br>P 4/14.8<br>S 4/14.8<br>T 1/3.7 |

(#/%)

| Subj. | ES<br>DF    | T1                    | T2               | T3                                | T4                                | T5                    | T6                              | T7   | T8  | T9  | T10   | T11   | T12   | T13  | T14  |
|-------|-------------|-----------------------|------------------|-----------------------------------|-----------------------------------|-----------------------|---------------------------------|--|---|---|---|---|---|--|--|
| S20   | Fore-ground | nf                    | nf               | L 3/60<br>SC 1/20<br>S 1/20       | L 1/33.3<br>SC 1/33.3<br>N 1/33.3 | -                     | L 4/57.1<br>T 3/42.8            | L 1/50<br>T 1/50   | L 4/66.6<br>SC 2/28.5                               | SC 2/33.3<br>L 1/16.6<br>A 1/16.6<br>N 1/16.6<br>S 1/16.6 | L 5/38.4<br>SC 2/15.3<br>T 2/15.3<br>S 2/15.3<br>P 1/7.6<br>N 1/7.6 | L 3/50<br>T 2/33.3<br>N 1/16.6                | L 2/66.6<br>T 1/33.3                                | L 1/100  | SC 2/50<br>N 1/25<br>S 1/25                    |
|       | Back-ground | L 2/66.6<br>SC 1/33.3 | T 1/50<br>P 1/50 | L 3/42.8<br>SC 2/28.5<br>S 2/28.5 | L 3/75<br>T 1/25                  | T 4/66.6<br>SC 2/33.3 | L 9/60<br>SC 4/26.6<br>T 2/13.3 | L 17/53.1<br>T 6/18.7<br>SC 5/15.6<br>S 3/9.3<br>N 1/3.1 | L 3/23<br>SC 3/23<br>S 3/23<br>T 2/15.3<br>P 2/15.3 | L 4/44.4<br>SC 2/22.2<br>T 1/11.1<br>P 1/11.1<br>S 1/11.1 | L 12/57.1<br>T 4/19<br>SC 2/9.5<br>S 2/9.5<br>N 1/4.7               | L 7/46.6<br>SC 4/26.6<br>T 2/13.3<br>P 2/13.3 | L 7/46.6<br>SC 3/20<br>S 3/20<br>T 1/6.6<br>A 1/6.6 | L 15/51.7<br>SC 7/24.1<br>T 2/6.8<br>S 2/6.8<br>P 2/6.8<br>N 1/3.4 | L 12/44.4<br>SC 7/25.9<br>T 4/14.8<br>S 4/14.8 |



Table 33. Communication Strategies adopted by Subjects when producing Narratives Orally, Divided according to Foreground and Background Information

| Subj. | DF \ ES     | (#/%)     |                        |                    |                     |                                      |                    |                     |   |                     |                                    |                                     |                    |                               |                               |
|-------|-------------|-----------|------------------------|--------------------|---------------------|--------------------------------------|--------------------|---------------------|---|---------------------|------------------------------------|-------------------------------------|--------------------|-------------------------------|-------------------------------|
|       |             | T1        | T2                     | T3                 | T4                  | T5                                   | T6                 | T7                  | T8  | T9                  | T10                                | T11                                 | T12                | T13                           | T14                           |
| S1    | Fore-ground | nf        | cs 1/33.3<br>cn 2/66.6 | nf                 | -                   | -                                    | -                  | cs 1/100            | cn 1/100                                  | -                   | cs 1/100                           | cs 4/100                            | -                  | nf                            | -                             |
|       | Back-ground | -         | cn 2/100               | -                  | cs 2/50<br>aw 2/50  | cs 2/50<br>aw 1/25<br>cs 1/25        | cs 1/50<br>cn 1/50 | cf 2/100            | aw 1/100                                  | aw 1/100            | aw 3/50<br>cs 2/33.3<br>prh 1/16.6 | cs 4/66.6<br>aw 1/16.6<br>cf 1/16.6 | cs 1/100           | cs 3/100                      | cs 3/100                      |
| S2    | Fore-ground | -         | -                      | -                  | cf 1/100            | -                                    | -                  | -                   | -   | -                   | cs 1/100                           | cs 1/50<br>cf 1/50                  | -                  | cs 1/100                      | prh 1/100                     |
|       | Back-ground | cf 1/100  | cs 1/100               | cs 1/50<br>aw 1/50 | aw 1/50<br>cf 1/50  | -                                    | cf 1/100           | -                   | cs 1/25<br>cf 1/25<br>prh 1/25<br>cn 1/25 | cs 1/100            | cf 3/100                           | aw 1/100                            | aw 2/100           | aw 1/50<br>cf 1/50            | cs 1/100                      |
| S3    | Fore-ground | -         | prh 1/100              | -                  | -                   | -                                    | -                  | -                   | cs 2/50<br>aw 1/25<br>prh 1/25            | -                   | cs 1/100                           | -                                   | aw 1/100           | cs 1/100                      | -                             |
|       | Back-ground | -         | prh 3/100              | -                  | cn 1/50<br>prh 1/50 | cn 1/100                             | cs 1/100           | -                   | cs 6/60<br>prh 3/30<br>cn 1/10            | -                   | cs 2/66.6<br>prh 1/33.3            | aw 2/100                            | aw 4/80<br>cs 1/20 | cs 1/100                      | cs 2/66.6<br>cn 1/33.3        |
| S4    | Fore-ground | -         | -                      | -                  | -                   | cn 1/100                             | -                  | aw 1/50<br>prh 1/50 | -   | -                   | -                                  | -                                   | cn 1/100           | cn 1/100                      | cs 1/100                      |
|       | Back-ground | -         | cn 1/100               | -                  | -                   | prh 1/100                            | -                  | -                   | cn 1/50<br>prh 1/50                       | cn 1/100            | cn 1/50<br>prh 1/50                | cs 2/66.6<br>cn 1/33.3              | cs 1/50<br>cn 1/50 | -                             | cs 1/50<br>prh 1/50           |
| S5    | Fore-ground | nf        | -                      | aw 1/100           | -                   | aw 1/100                             | -                  | cf 1/100            | -   | cs 1/50<br>aw 1/50  | -                                  | -                                   | nf                 | aw 2/50<br>cs 1/25<br>cf 1/25 | prh 1/100                     |
|       | Back-ground | prh 1/100 | aw 1/100               | -                  | -                   | cs 1/33.3<br>cf 1/33.3<br>prh 1/33.3 | cf 1/100           | cs 2/100            | -   | -                   | -                                  | cs 1/100                            | cn 1/100           | prh 1/100                     | aw 1/100                      |
| S6    | Fore-ground | nf        | -                      | nf                 | -                   | -                                    | -                  | cs 2/100            | -   | nf                  | -                                  | aw 1/100                            | -                  | cs 3/100                      | cs 2/40<br>aw 2/40<br>cf 1/20 |
|       | Back-ground | aw 1/100  | -                      | -                  | -                   | -                                    | -                  | cs 3/75<br>prh 1/25 | -   | cf 1/50<br>prh 1/50 | cf 1/100                           | aw 2/100                            | prh 1/100          | prh 1/100                     | cn 1/100                      |

Subj. = subject; DF = discourse function; ES = elicitation session; T1, T2, etc. = the first elicitation session, the second elicitation session, etc. nf = no foreground information; nb = no backgrounded information; "-" = no strategy is used when expressing the particular information; cs = code-switching; aw = asking unknown word; cf = clarifying; cn = coining new expression; prh = paraphrasing; #/% = number of instances the particular type of strategy was used to express the particular information/percentage of the number in the total number of instances of strategies used to express that particular information.

| Subj. | DF \ ES     | (#/%)    |    |                                     |                         |                                |                                   |                     |                     |                                |                         |                        |                         |                               |                        |
|-------|-------------|----------|----|-------------------------------------|-------------------------|--------------------------------|-----------------------------------|---------------------|---------------------|--------------------------------|-------------------------|------------------------|-------------------------|-------------------------------|------------------------|
|       |             | T1       | T2 | T3                                  | T4                      | T5                             | T6                                | T7                  | T8                  | T9                             | T10                     | T11                    | T12                     | T13                           | T14                    |
| S7    | Fore-ground | -        | -  | -                                   | -                       | -                              | -                                 | cn 1/100            | -                   | aw 1/50<br>prh 1/50            | -                       | -                      | -                       | -                             | -                      |
|       | Back-ground | -        | -  | cn 1/100                            | cs 1/100                | -                              | cs 1/50<br>cf 1/50                | -                   | aw 1/50<br>prh 1/50 | cf 1/100                       | -                       | -                      | cs 1/100                | -                             | cs 1/100<br>aw 1/100   |
| S8    | Fore-ground | nf       | -  | aw 1/100                            | -                       | nf                             | -                                 | -                   | cn 1/100            | -                              | -                       | -                      | prh 1/100               | -                             | -                      |
|       | Back-ground | -        | -  | -                                   | -                       | cf 1/100                       | -                                 | -                   | cn 2/100            | -                              | -                       | -                      | -                       | -                             | cs 2/66.6<br>aw 1/33.3 |
| S9    | Fore-ground | nf       | nf | cs 1/33.3<br>aw 1/33.3<br>cf 1/33.3 | cs 3/100                | cf 1/100                       | -                                 | cf 1/100            | -                   | -                              | -                       | cf 1/100               | aw 2/100                | cn 1/100                      | aw 1/100               |
|       | Back-ground | cf 1/100 | nb | aw 3/75<br>cf 1/25                  | cs 1/100                | cs 3/100                       | cf 3/60<br>aw 1/20<br>cs 1/20     | cf 1/100            | cs 1/100            | cf 2/50<br>aw 1/25<br>prh 1/25 | aw 3/75<br>cs 1/25      | aw 1/100               | cf 4/100                | cf 3/60<br>aw 1/20<br>cs 1/20 | cf 1/100               |
| S10   | Fore-ground | nf       | nf | -                                   | -                       | -                              | -                                 | nf                  | -                   | nf                             | nf                      | -                      | nf                      | nf                            | -                      |
|       | Back-ground | -        | nb | aw 1/100                            | -                       | -                              | -                                 | -                   | -                   | -                              | -                       | -                      | prh 2/66.6<br>cs 1/33.3 | prh 1/100                     | -                      |
| S11   | Fore-ground | -        | nf | nf                                  | nf                      | cn 2/66.6<br>cs 1/33.3         | cn 1/100                          | cn 2/100            | cn 2/50<br>cf 2/50  | -                              | cn 2/66.6<br>prh 1/33.3 | cs 1/100               | -                       | cn 2/100                      | cn 1/50<br>cs 1/50     |
|       | Back-ground | cn 1/100 | nb | cn 7/77.7<br>prh 2/22.2             | cn 2/66.6<br>phr 1/33.3 | cn 2/40<br>phr 2/40<br>cf 1/20 | cn 4/50<br>cf 3/37.5<br>aw 1/12.5 | cn 3/75<br>prh 1/25 | cn 6/100            | cn 3/100                       | cn 3/100                | cs 5/62.5<br>cn 3/37.5 | cn 6/100                | cn 1/50<br>prh 1/50           | cn 2/100               |
| S12   | Fore-ground | nf       | nf | -                                   | nf                      | nf                             | -                                 | nf                  | nf                  | -                              | nf                      | -                      | -                       | nf                            | -                      |
|       | Back-ground | -        | nb | -                                   | aw 1/100                | cn 2/100                       | -                                 | cn 1/100            | -                   | -                              | -                       | -                      | cs 1/50<br>prh 1/50     | cn 1/100                      | -                      |

| Subj. | ES          |                        | (#/%)                          |                                     |                     |                        |                                      |  |                                      |                               |                                   |   |   |  |  |
|-------|-------------|------------------------|--------------------------------|-------------------------------------|---------------------|------------------------|--------------------------------------|--|--------------------------------------|-------------------------------|-----------------------------------|---|---|--|--|
|       | DF          | T1                     | T2                             | T3                                  | T4                  | T5                     | T6                                   | T7                                       | T8                                   | T9                            | T10                               | T11                                       | T12   | T13  | T14  |
| S13   | Fore-ground | nf                     | -                              | nf                                  | -                   | -                      | cs 2/66.6<br>aw 1/33.3               | -  | -                                    | nf                            | nf                                | aw 1/50<br>cf 1/50                        | -   | cs 3/75<br>cf 1/25   | cs 2/100   |
|       | Back-ground | -                      | cs 2/40<br>aw 2/40<br>prh 1/20 | aw 2/50<br>cs 1/25<br>cf 1/25       | cs 2/100            | cs 5/83.3<br>cf 1/16.6 | cs 3/75<br>cf 1/25                   | aw 2/100                                 | cf 1/50<br>cn 1/50                   | cs 4/57.1<br>cf 3/42.8        | cs 5/83.3<br>aw 1/16.6            | cs 6/83.7<br>cn 1/14.2                    | cs 5/35.7<br>cf 5/35.7<br>aw 3/21.4<br>cn 1/7.1 | cf 6/42.8<br>cs 4/28.5<br>aw 2/14.2<br>cn 1/7.1<br>prh 1/7.1 | cf 7/41.1<br>cs 4/23.5<br>aw 2/11.7<br>cn 2/11.7<br>prh 2/11.7 |
| S14   | Fore-ground | nf                     | cs 2/100                       | -                                   | cn 2/100            | -                      | cn 2/66.6<br>aw 1/33.3               | -  | nf                                   | cn 1/100                      | nf                                | cs 1/100                                  | -   | cs 1/50<br>prh 1/50  | -  |
|       | Back-ground | -                      | cs 1/100                       | -                                   | -                   | cs 1/50<br>cn 1/50     | cn 1/100                             | cs 1/33.3<br>aw 1/33.3<br>prh 1/33.3     | cn 3/100                             | cf 2/50<br>aw 1/25<br>cn 1/25 | cs 6/75<br>aw 1/12.5<br>cf 1/12.5 | cs 2/66.6<br>cn 1/33.3                    | cn 1/50<br>prh 1/50                             | cs 2/28.5<br>aw 2/28.5<br>cn 2/28.5<br>cf 1/14.2             | aw 2/40<br>cf 2/40<br>prh 1/20                                 |
| S15   | Fore-ground | -                      | -                              | -                                   | cs 1/50<br>aw 1/50  | -                      | cs 1/100                             | nf                                       | cf 1/50<br>cn 1/50                   | prh 1/100                     | cs 2/50<br>cf 1/25<br>cn 1/25     | cf 1/50<br>cn 1/50                        | prh 1/100                                       | prh 2/66.6<br>cf 1/33.3                                      | -  |
|       | Back-ground | cs 2/66.6<br>aw 1/33.3 | cf 2/50<br>cs 1/25<br>cn 1/25  | cs 4/57.1<br>aw 2/28.5<br>cf 1/14.2 | cs 1/50<br>prh 1/50 | cs 1/50<br>prh 1/50    | cs 4/66.6<br>cf 1/16.6<br>prh 1/16.6 | cs 2/40<br>aw 1/20<br>cf 1/20<br>cn 1/20 | cs 5/71.4<br>cn 1/14.2<br>prh 1/14.2 | cs 2/66.6<br>cf 1/33.3        | cs 3/75<br>cf 1/25                | cs 5/50<br>prh 3/30<br>aw 1/10<br>cn 1/10 | cs 1/50<br>prh 1/50                             | prh 2/50<br>aw 1/25<br>cs 1/25                               | cs 3/75<br>cn 1/25   |
| S16   | Fore-ground | cn 1/100               | cs 1/50<br>cn 1/50             | -                                   | cs 2/100            | -                      | cn 1/100                             | cs 1/100                                 | cn 1/100                             | -                             | -                                 | nf  | nf  | nf   | cs 1/100   |
|       | Back-ground | -                      | cs 1/100                       | cs 1/100                            | cs 1/50<br>aw 1/50  | cn 1/50<br>prh 1/50    | cn 2/66.6<br>cs 1/33.3               | cs 2/40<br>cn 2/40<br>aw 1/20            | cn 3/75<br>aw 1/25                   | prh 1/100                     | cs 1/50<br>aw 1/50                | nb  | cs 1/50<br>aw 1/50                              | cs 1/50<br>aw 1/50   | cs 5/62.5<br>cf 2/25<br>aw 1/12.5                              |
| S17   | Fore-ground | -                      | cn 1/100                       | cs 1/100                            | -                   | cn 1/100               | aw 1/100                             | cn 1/100                                 | -                                    | aw 2/66.6<br>cf 1/33.3        | cs 2/100                          | cs 1/50<br>prh 1/50                       | cs 3/75<br>aw 1/25                              | prh 1/100  | cs 1/100   |
|       | Back-ground | aw 2/100               | -                              | cs 3/100                            | cs 1/50<br>prh 1/50 | aw 1/100               | cf 1/50<br>cn 1/50                   | cn 1/100                                 | cn 1/100                             | aw 1/100                      | cs 3/60<br>aw 1/20<br>cn 1/20     | cs 1/100                                  | cs 1/100  | -  | cs 1/50<br>aw 1/50   |

| (#/%) |             |          |                                     |   |  |   |  |  |          |                                     |   |  |   |  |  |
|-------|-------------|----------|-------------------------------------|---|--|---|--|--|----------|-------------------------------------|---|--|---|--|--|
| Subj. | ES<br>DF    | T1       | T2                                  | T3  | T4   | T5  | T6   | T7   | T8       | T9                                  | T10   | T11  | T12   | T13                                      | T14  |
| S18   | Fore-ground | -        | nf                                  | -   | nf   | nf  | -  | cs 1/100   | nf       | nf                                  | nf  | -  | -   | cn 2/100                                 | cs 1/33.3<br>aw 1/33.3<br>prh 1/33.3                           |
|       | Back-ground | -        | cf 1/50<br>cn 1/50                  | -   | aw 3/75<br>cs 1/25                               | cn 1/100  | prh 1/100  | cn 2/100   | cn 2/100 | cn 2/100                            | cs 1/100  | cn 3/100                                       | aw 1/100  | -  | aw 3/42.8<br>cs 2/28.5<br>prh 2/28.5                           |
| S19   | Fore-ground | -        | nf                                  | nf  | nf   | -   | -  | aw 2/50<br>cs 1/25<br>cf 1/25                                | nf       | -                                   | cs 2/100  | cf 3/60<br>cs 2/40                             | nf  | cs 1/50<br>aw 1/50                       | aw 2/100   |
|       | Back-ground | -        | cs 1/50<br>aw 1/50                  | aw 5/45.4<br>cn 3/27.2<br>cs 2/18.1<br>cf 1/9 | cf 4/44.4<br>cs 3/33.3<br>aw 1/11.1<br>cn 1/11.1 | aw 3/50<br>cs 1/16.6<br>cf 1/16.6<br>prh 1/16.6 | cs 2/33.3<br>aw 1/16.6<br>cf 1/16.6<br>cn 1/16.6<br>prh 1/16.6 | cs 15/65.2<br>cn 4/17.3<br>cf 2/8.6<br>aw 1/4.3<br>prh 1/4.3 | cs 1/100 | cs 4/66.6<br>aw 1/16.6<br>cf 1/16.6 | cs 3/50<br>aw 1/16.6<br>cf 1/16.6<br>prh 1/16.6 | aw 4/50<br>cf 2/25<br>cs 1/12.5<br>cn 1/12.5   | cs 4/44.4<br>aw 2/22.2<br>prh 2/22.2<br>cn 1/11.1 | cs 3/60<br>aw 1/20<br>prh 1/20           | cs 1/20<br>aw 1/20<br>cf 1/20<br>cn 1/20<br>prh 1/20           |
| S20   | Fore-ground | nf       | nf                                  | -   | -  | -   | cs 1/50<br>aw 1/50   | -  | -        | aw 1/100                            | cs 2/50<br>aw 2/50                              | -  | cf 1/100  | -  | -  |
|       | Back-ground | cs 1/100 | aw 1/33.3<br>cf 1/33.3<br>cn 1/33.3 | cs 1/50<br>aw 1/50                            | aw 2/50<br>cn 2/50                               | aw 1/33.3<br>cf 1/33.3<br>cn 1/33.3             | cs 1/50<br>cf 1/50   | cf 4/50<br>cs 2/25<br>aw 1/12.5<br>prh 1/12.5                | cf 1/100 | aw 1/50<br>cf 1/50                  | cs 1/25<br>cf 1/25<br>cn 1/25<br>prh 1/25       | aw 5/41.6<br>cf 3/25<br>cs 2/16.6<br>cn 2/16.6 | cf 1/33.3<br>cn 1/33.3<br>prh 1/33.3              | cn 2/40<br>cs 1/20<br>aw 1/20<br>cf 1/20 | cs 2/28.5<br>aw 2/28.5<br>cf 1/14.2<br>cn 1/14.2<br>prh 1/14.2 |

## Appendix 32

### A Summary of Scores Obtained by Subjects for Overall Participation in Out-of-class Contact with English in the Three Testing Sessions

| Subject | LC (1) | LC (2) | LC (3) |
|---------|--------|--------|--------|
| S1      | 9.25   | 2.75   | 4      |
| S2      | 7.25   | 6.75   | 9.5    |
| S3      | 3      | 2      | 4.25   |
| S4      | 5      | 3.75   | 4.25   |
| S5      | 7.5    | 3.75   | 7      |
| S6      | 7.75   | 7.25   | 10     |
| S7      | 5      | 4.5    | 7      |
| S8      | 5.5    | 2.5    | 3.25   |
| S9      | 13.25  | 6.5    | 4.5    |
| S10     | 6.5    | 3.25   | 5      |
| S11     | 9.75   | 4      | 6.75   |
| S12     | 9.5    | 4.75   | 9.25   |
| S13     | 7.25   | 4.25   | 4.5    |
| S14     | 8.25   | 7      | 5.75   |
| S15     | 9      | 8.5    | 7.5    |
| S16     | 10     | 3.5    | 5      |
| S17     | 9      | 11.25  | 12.25  |
| S18     | 10.25  | 9.75   | 9.75   |
| S19     | 8.75   | 7      | 6.75   |
| S20     | 10     | 14.5   | 13.75  |

Legend: LC (1), LC (2), LC (3) = scores for overall participation in out-of-class contact with English in the first, the second, and the third testing sessions